

A

AIR CLEANER

Filters out dust and other harmful air-borne particles, and quiets the sound of air flowing into the carburetor. Chevrolet-built engines use air cleaners of one of three types:

■ **Dry Element**—Resin-impregnated replaceable paper element type of pleated design for compactness with large filtering area. Element is retained in the air cleaner housing by metal screens.

■ **Oil-Wetted Element**—Polyurethane foam or special paper filter element wetted with engine oil for effective filtering. Element can be removed for cleaning.

■ **Oil Bath**—Heavy-duty oil bath air cleaner is designed for effective filtering where dirt, dust, or sand concentrations are critical, or for other unusually severe operating conditions. Filter can be cleaned and replenished with fresh oil. Optional (RPO K45) for 140-hp Turbo-Thrift 230 engine, and all Corvair models (RPO K47) except Spyder. See Engine Specifications for the air cleaner type used with individual engines, and Owner's Guides for recommended servicing intervals.

AIR CONDITIONING

Chevrolet air conditioning systems are functionally similar to a refrigerator or home air conditioner, and are specifically designed for Chevrolet, Chevelle, Chevy II, Corvair, and Corvette models. All systems are available as factory-installed options, and most are also available as dealer-installed accessory units. See individual Options and Accessories sections for model availability, restrictions and additional equipment included or required, and Owner's Guide for operating procedures.

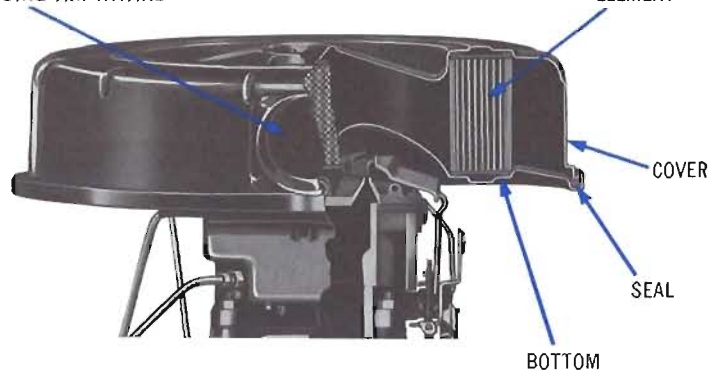
■ **Four-Season Air Conditioning**—Completely heater-integrated systems for Chevrolet, Chevelle, and Corvette models only. Dual-function heater and air conditioning controls offer wide-range low-humidity temperature control with choice of outside air, recirculation of inside air, or se-



Chevrolet Four-Season Air Conditioner and Controls (RPO C60)

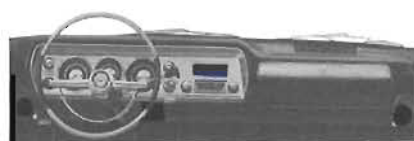
SOUND-ABSORBING AIR INTAKE

ELEMENT



195-hp Turbo-Fire 283 Dry Element Type Air Cleaner

lective blending of both. Swivel-type ball outlets at instrument panel sides and a central barrel-type outlet contribute to uniform distribution of



Chevelle Four-Season Air Conditioner and Controls (RPO C60)

cool air. Controls consist of regular heater controls plus an AIR COND PULL knob to start the compressor, turn blower on low speed, and operate air diverter valve to direct air from heater floor outlets to the cool air outlets at instrument panel level. Major air conditioning system components—condenser, receiver-dehydrator, and compressor—are located in the engine compartment.



Corvette Four-Season Air Conditioner and Controls (RPO C60)

■ **Custom De Luxe and Chevy II De Luxe**—Heater-integrated systems offering choice of outside air, recirculation of inside air, or selective blend-



Chevrolet Custom De Luxe Air Conditioner and Controls (RPO C65)

ing of both similar to Four-Season Air Conditioning. Available on Chevrolet, Chevelle, and Chevy II models only. Unlike the Four-Season Air Conditioning units, De Luxe air outlets and controls are mounted below rather than built into the instrument panel (see illustration). Cooling air is directed into the passenger compartment through louvers at the case sides, swivel-type ball outlets at each end of the control panel, and a central barrel-type outlet above the controls. Two controls on the case—PULL FOR AIR COND and TEMP COOL—operate heater floor outlet diverter, start compressor, and regulate air temperature. Heater AIR-FAN control regulates inside-outside air blending and actuates the 3-speed blower. Other air conditioning system components are located in the engine compartment.



Chevy II De Luxe Air Conditioner and Controls (RPO C60)



Chevelle Custom De Luxe Air Conditioner and Controls (RPO C65)

■ **Corvair De Luxe Air Conditioning**—Recirculating air system operating independently of the heater for controlled cooling of inside air only. Air outlets and controls are contained in the evaporator case, similar to Custom De Luxe and Chevy II De Luxe, and mounted with the radio below the instrument panel (see illustration). Radio (either manual or push-button) is a mandatory option with Corvair air conditioning. Center barrel-type outlet on control panel face and swivel-type ball outlets at sides of case uniformly distribute cooling air into the passenger com-



Corvair De Luxe Air Conditioner and Controls (RPO C64)

partment. Push-pull type COOL knob actuates compressor and controls air temperature. Maximum cooling is obtained with knob in full out position; intermediate temperatures by varying setting. FAN knob controls a 3-speed centrifugal blower located within the evaporator case. Compressor, condenser, and receiver-dehydrator are located in the engine compartment, thereby necessitating spare tire stowage in the front luggage compartment.

AMMETER

Standard in Corvette Sting Ray and in Chevelle Super Sport models. Indicates rate at which battery is being charged or discharged. Voltage regulator controls charge according to battery requirements. Ammeter shows charge when generator is supplying more than current demand. If current draw exceeds generator output, the ammeter shows discharge. When battery is fully charged, ammeter may show little or no charge.

ANODIZED ALUMINUM

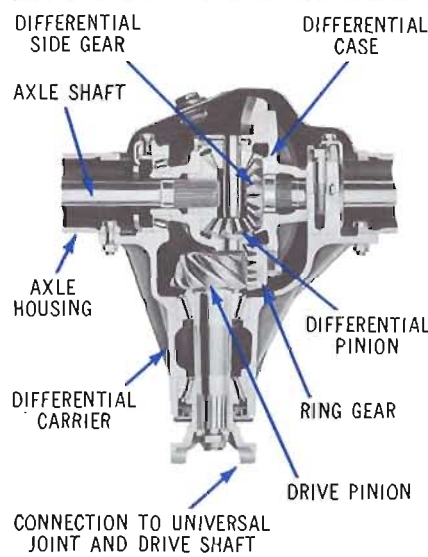
Special anodizing process surface finishes aluminum parts (grille, moldings, headlight and taillight bezels) with a hard bright surface that resists weather and corrosion.

AXLE, REAR

The final drive gearing and axle shaft assembly that multiplies engine torque from the transmission and transmits power to the rear wheels (see Axle Ratio or Torque Multiplication). In addition, on all models except Corvette, Corvair, and Greenbrier, the axle housing serves as a principal rear suspension component (see Suspension).

Chevrolet, Chevelle, Chevy II, Corvair, and Corvette rear axles are engineered to specific design requirements, and are functionally similar in delivering power to the rear wheels as follows (see illustrations): 1. Torque from the engine and transmission is transmitted to the rear axle drive pinion by the drive shaft (except on Corvair transaxle drive where the pinion is driven through a splined connection with the hollow transmission output shaft). 2. The drive pinion transmits torque to the ring gear bolted to the differential case. 3. The case, roller-bearing-mounted in the differential carrier, transmits torque to the differential pinions and side gears. 4. The differential gears transmit torque to the axle shafts and rear wheels while simultaneously compensating for differences in wheel revolutions when turning.

■ **Chevrolet, Chevelle, and Chevy II Rear Axles**—Semi-floating, hypoid gear, two-pinion differential design with overhung drive pinion (pinion

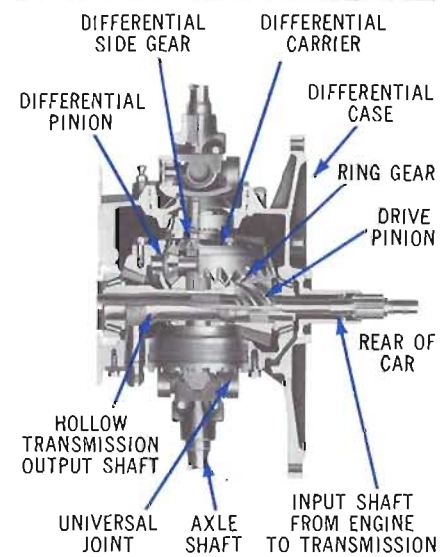


Conventional Rear Axle

shaft supported by two tapered roller bearings ahead of pinion gear). Welded pressed-steel banjo-type housing on Chevrolet, 3-piece integrally welded housing on Chevelle and Chevy II (axle shaft tubes pressed and welded to cast carrier housing). Drive pinion is offset to lower drive shaft and improve rear seat roominess by reducing height and size of drive shaft tunnel. Cast alloy iron differential carrier supports and maintains precision alignment of all axle gearing. Semi-floating axle shafts with forged wheel drive flanges are splined to the differential side gears and mounted in bearings at the wheel ends of the axle housing. Gears and axle shafts are precision-forged of tough alloy steel for extra durability.

■ **Chevrolet Heavy-Duty Rear Axle**—Optional as part of Taxicab Equipment (RPO B02) and Police Car Chassis Equipment (RPO Z04). Includes high-capacity wheel bearings and heavy-duty axle shafts. See Biscayne Taxicab and Police Car Equipment sections.

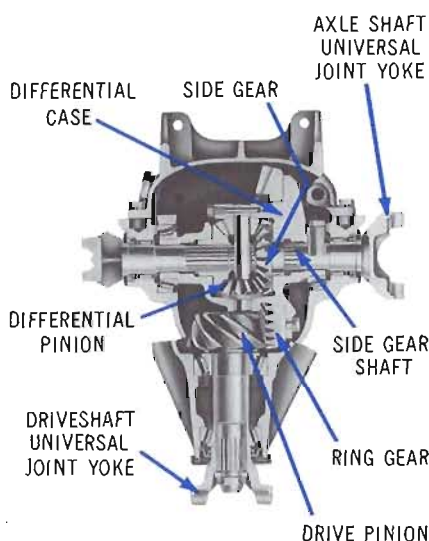
■ **Corvair Swing-Type Rear Axle**—Hypoid gear, two-pinion differential, swing-axle type specifically designed for Corvair transaxle drive (see Unipack Power Team). Unlike conventional rear axle designs, the differential carrier supporting the axle gearing is rigidly bolted between the engine and the transmission, and the drive pinion shaft splined directly to the transmission output shaft. Tapered roller bearings at each end of the cast alloy iron carrier support the drive pinion gear shaft and maintain precise alignment with the ring gear. The axle shaft inner ends are splined to needle-bearing universal



Corvair Rear Axle

joints that are, in turn, splined to the differential side gears to permit free vertical axle movement or "swing." Outer ends of the axle shafts are mounted in special pressed-on double-row roller bearings that compensate for minor suspension system deflections. Axle shafts are retained by plates bolted to rear suspension lower control arms.

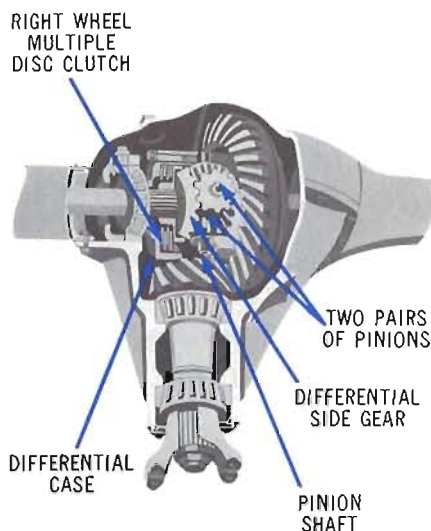
■ **Corvette Rear Axle**—Frame-mounted final drive gear unit is similar in function to Chevrolet, Chevelle, and Chevy II axles, but double universal jointed tubular axle shafts connect differential side gear shafts with wheel spindle shafts. Gear unit is mounted to frame by rubber-isolated crossmember and rubber-bushed front mount, and is laterally connected to



Corvette Frame-Mounted Rear Axle

separate wheel spindles by control rods. Tubular axle shafts and lateral control rods function as short and long control arms that permit independent wheel movement (see also Suspension, Corvette). Universal joint yokes are heat-treated forged steel with needle bearings and steel-encased rubber. Cast alloy iron spindle support mounts in radius arm.

■ **Positraction Rear Axle**—Optional (RPO G80 or G81) with all Chevrolet, Chevelle, Chevy II, Corvair, and Corvette standard and optional axle ratios. Positraction axles differ from regular axles in that differential torque distribution to the rear wheels is controlled by a system of internal clutches. All Positraction axles except Corvette and Corvair are four-pinion differential design with multiple-disc clutches splined on the axle shafts between the differential side gears and differential case. As



Chevrolet Optional Positraction Rear Axle

long as both wheels have equal traction, both clutches are engaged and the differential transmits equal torque to both wheels. When traction is reduced or lost at one wheel, its clutch disengages, and normal differential action automatically transfers more torque to the other wheel and proportionately less to the wheel with reduced traction. Corvair Positraction is a modified design with a single spring-loaded clutch between the right-hand side gear and the differential case to govern differential action and direction of torque to the wheel with traction.

AXLE RATIO

A specific axle ratio determines the multiplication of driveshaft torque through the final drive gearing to the axle shafts and rear wheels, and indicates the numerical ratio of rear axle ring gear teeth to drive pinion teeth. Higher numerical ratios produce greater torque multiplication. Axle ratios are selectively matched to individual engine and transmission combinations to achieve desired performance characteristics. See Power Teams sections for standard and optional axle ratios available. Depending on ratio, Chevrolet, Chevelle, Chevy II, Corvair, and Corvette rear axles are classified as follows:

- **General Purpose**—Usually the standard axle for each power team, with ratio selected for best balance of performance and economy under normal driving conditions.
- **Performance**—Moderately higher numerical ratio than standard axle for improved overall performance.
- **Special Purpose or Mountain**—Higher numerical ratio axle for spe-

cial driving conditions requiring greater power at the rear wheels.

■ **Performance Cruise**—Relatively lower ratio axles teamed with high-output engines for exceptional performance at higher cruising speeds.

■ **High Performance**—Extra-high ratio axles teamed with top-output engines for maximum performance in all speed ranges.

B

BATTERY

12-volt battery converts chemical energy into electrical energy for starting engine and operating lights and other electrical equipment. Various ampere-hour rating batteries are used in Chevrolet, Chevelle, Chevy II, Corvair, and Corvette models. For standard battery used with each engine see Engine Specifications. For optional heavy-duty battery details see Options and Accessories sections.

BEZELS

Bright metal or painted rim or flange edging instrument cluster, taillights, or similar applications.

BORE AND STROKE

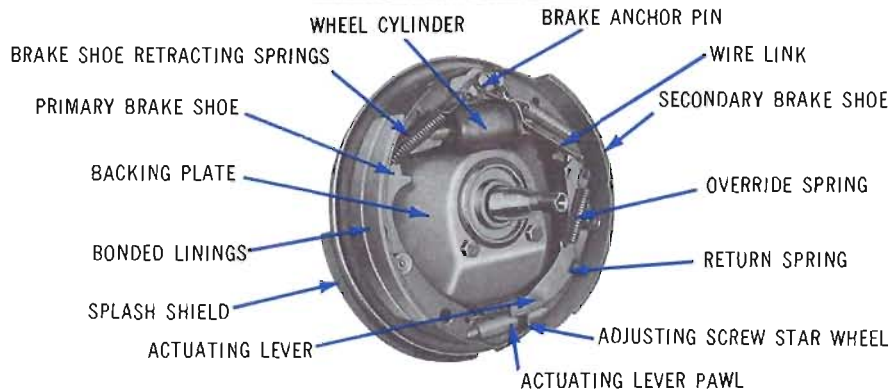
Bore is the inside diameter of a cylinder. Stroke is the length of piston travel in the cylinder. For bore and stroke of each engine, see Engine Specifications.

BOX-GIRDER DESIGN

For great strength with minimum dead weight, Chevrolet employs steel in closed sections called box girders extensively in body and chassis frame construction: in roof rails, windshield and rear window headers, pillars, sills, cross beams and braces of body structures and in chassis frame members.

BRAKES, SAFETY-MASTER SELF-ADJUSTING

Designed for smooth, uniform, straight-line stops, Safety-Master brakes have essentially similar design in all Chevrolet, Chevelle, Chevy II, Corvair, and Corvette models. For specific brake details see Chassis Specifications sections. Self-adjusting feature eliminates need for periodic manual adjustment and maintains more consistent pedal response. Automatic adjustment occurs only when brakes are applied while car is moving in reverse. (With Corvette Special Performance Equipment option RPO Z06, adjusting mechanism operates when brakes are applied in forward motion.) The self-adjusting unit consists of a link, actuating lever, pawl, override spring, and a return spring (see illustration). One end of the linkage is attached to the brake anchor pin by a wire link, while the



Chevrolet Self-Adjusting Safety-Master Brakes

pawl meets the adjusting screw star wheel at the other end. On reverse stops, the secondary shoe moves outward and rotates slightly until the primary shoe contacts the anchor pin. If the movement is sufficiently large, the self-adjuster is actuated, and the star wheel is turned by the pawl, spreading the shoes closer to the drums. Ratcheting action returns the mechanism when brakes are released. The overriding spring prevents over-adjustment.

■ **Brake Lining**—Premium-quality heat-resistant molded asbestos composition linings bonded to the brake shoes are engineered for superior stopping power and durability. Special sintered-metallic linings are optional (RPO J65) on Chevrolet, Chevelle, Chevy II, and Corvette, and are included in the Corvette Special Performance Equipment option (RPO Z06). Sintered iron segments, welded to the brake shoes, are virtually unaffected by water and contribute to maximum braking effectiveness in unusually severe operation.

low fuel-air mixture to be drawn into the cylinders. Chemical coating on cam lobes promotes smooth contact with bottoms of valve lifters. Chevrolet, Chevelle, Chevy II, and Corvette camshafts also operate oil pump, ignition distributor and fuel pump. Corvair camshaft has only three intake and three exhaust valve cams (each of which operates two valves) and the distributor, fuel pump, and oil pump are driven by the crankshaft. Camshafts used in Chevrolet-built engines are classified as follows:

■ **Economy-Contoured**—Cams contoured for high fuel economy and high engine torque at the most used lower and intermediate car speeds.

■ **General Performance**—Cams contoured for fine balance of performance and fuel economy in all speed ranges.

■ **Special Performance**—Cams contoured for maximum performance in higher speed ranges.

For camshaft application with specific engines, see Individual Engine Specifications.

CARBURETION

All Chevrolet-built engines (except Corvette Fuel Injection V8) are equipped with a carburetor or carburetors carefully engineered to individual performance requirements and differing in the number and design of the barrels (fuel-air mixing chambers), size and shape of the carburetor body, choke type and design, calibration of internal fuel metering systems, and other details. Filtered air from the air cleaner enters the carburetor at the side on the Spyder Turbo-charged engine (side-draft carburetion), and from the top on all other Chevrolet-built engines (down-draft carburetion). Automatic choke is standard on all except the Chevy II 153-cu.-in. 4-cylinder engine. See individual Engine Specifications for fuel and induction system details.

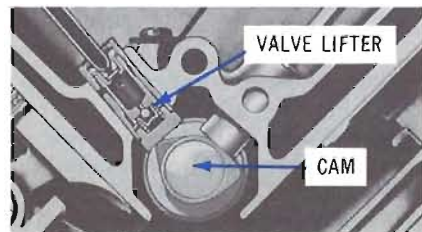
■ **Single-Barrel Carburetion**—Feature of all 4- and 6-cylinder engines. Single-barrel design contributes to high fuel economy and good performance at most used lower and intermediate speed ranges. The Spyder Turbo-charged engine single-barrel side-draft carburetor is specifically designed for higher power output in conjunction with the turbo-supercharger.

■ **2-Barrel Carburetion**—Single-body carburetor with twin-barrel design featured on Chevrolet, Chevelle, and Chevy II 195-hp Turbo-Fire 283 V8 engines for excellent performance and economy in all speed ranges. Each barrel supplies fuel-air mixture to four cylinders (two on each side of

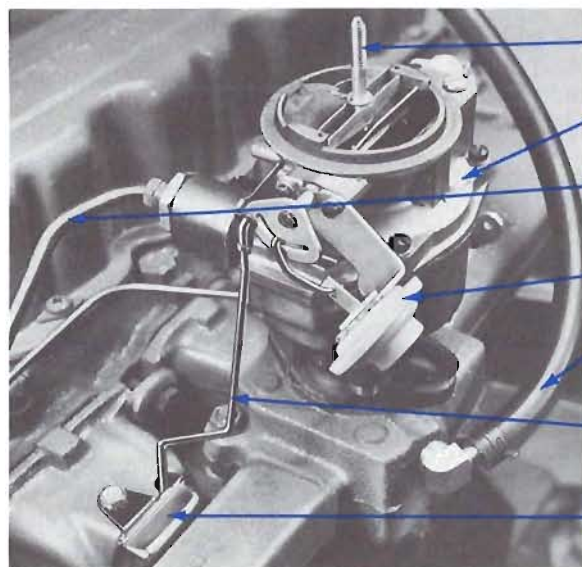
C

CAMSHAFT

Operates valves through cams precision-contoured to produce the combination of fuel economy and performance desired in each engine. Cams hold the valves open long enough to discharge combustion gases efficiently from the cylinders and al-



V8 Engine Camshaft



Principal Components of 140-hp Turbo-Thrift 230 Carburetor

the engine) through the intake manifold branches.

■ **4-Barrel Carburetion** — Single-body 4-barrel design for exceptional economy and higher power output on optional V8 engines. Under moderate driving conditions, the 4-barrel carburetor functions like a 2-barrel carburetor—only the two front (primary) barrels supply required volumes of fuel-air mixture. When more power is needed for passing or for higher engine speeds, additional volumes of fuel-air mixture are supplied by the two rear (secondary) barrels. Secondary barrel operation is controlled by a special air-velocity-operated auxiliary throttle valve above each regular throttle valve. Air flow through the secondary barrels is not sufficient to open the auxiliary valves when engine speeds are low, and the engine draws upon the primary barrels for fuel-air mixture. As engine speed increases, the air velocity exerts increasing force against the auxiliary valve until it is forced open. Valve opening is carefully calibrated so that it will occur when the greatest metering efficiency is possible, and the transition from low to high speed operation is smoother and more economical.

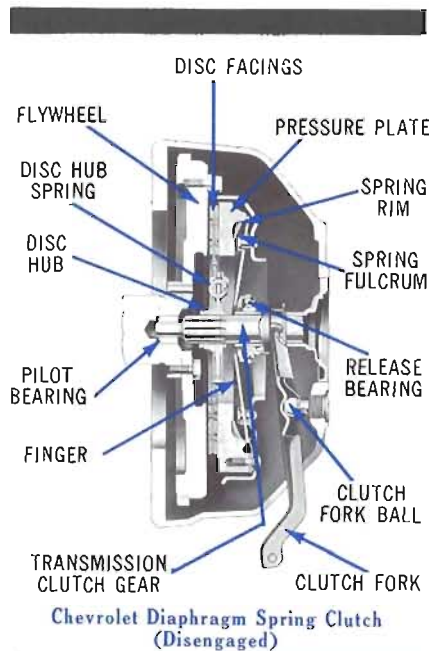
■ **Twin 4-Barrel Carburetion**—Feature of 425-hp Turbo-Fire 409 V8. Two 4-barrel carburetors are tandem-mounted on special intake manifold and synchronized by interconnecting linkage. At lower engine speeds, only throttle valves in front barrels of rear carburetor operate. As throttle opening increases, linkage also opens front barrels of front carburetor. Rear barrels of each carburetor open as engine accelerates when increasing air velocity against weighted auxiliary throttle valves above main throttle valves offsets weights and auxiliary valves open smoothly. Automatic choke is included on rear carburetor only.

CLOCK, ELECTRIC

Standard on Chevrolet Super Sport and Impala, Chevelle Super Sport, Malibu, Custom El Camino, and Corvette models. Dealer-installed accessory for other models. Features sapphire-jeweled movement, automatic regulation, illuminated dial matching other instruments, and pull-out set knob. If clock runs slow, setting it ahead to correct time speeds up the movement; resetting it back will slow the movement. Usually after a few settings, no further regulation is required to maintain accurate time-keeping.

CLUTCH

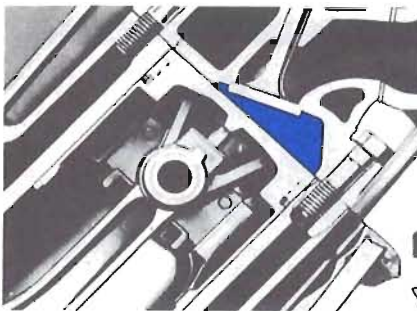
Pedal-operated friction coupling transmitting torque from the engine flywheel to the transmission on all 3- and 4-Speed Synchro-Mesh and



Overdrive power teams. All Chevrolet-built clutches are single dry disc design with positive-action diaphragm spring engagement, sealed release bearing, and light alloy aluminum housing. Clutch engagement is controlled by foot pedal connected to the clutch fork (see illustration). Clutch disc sizes and spring pressures are matched to engine torque for smooth shifting and long life. Some power teams feature a centrifugally assisted bent-finger design diaphragm spring, special high-load pressure plate, and premium-quality woven asbestos disc facings. See Power Teams sections for clutch specifications with individual engines.

COMBUSTION CHAMBERS, WEDGE-TYPE

Combustion chambers of all Chevrolet-built engines are wedge-type or modified wedge-type, designed to create high fuel-air mixture turbulence as the piston nears the top of the cylinder. Highly turbulent mixture burns smoothly and efficiently for quiet, economical performance.



Wedge-Type Combustion Chamber

COMPRESSION RATIO

The ratio of cylinder volume with piston at bottom of stroke to volume with piston at top of stroke. For compression ratio data, see individual Engine Specifications.

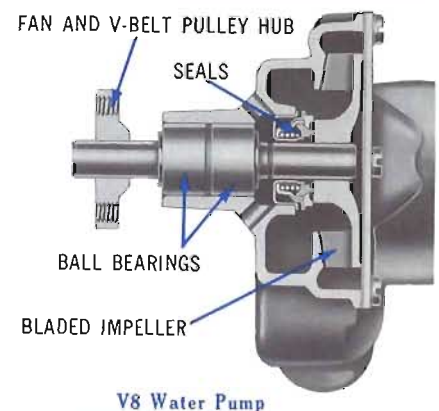
CONVERTIBLE TOP

See special Owner's Guide supplement included with Convertible models for operation and care of manual- and electro-hydraulic power-operated folding tops.

COOLING SYSTEM

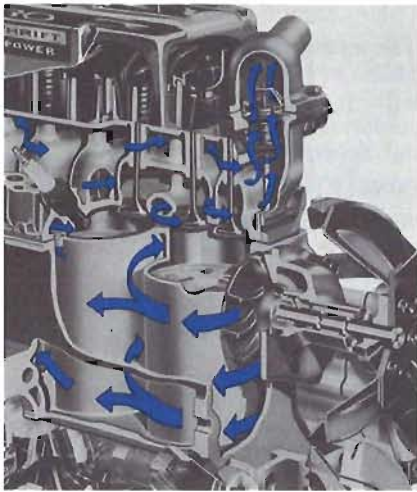
Carries off excess heat of combustion and helps maintain uniform operating temperatures throughout the engine for economical operation and longer engine life. Every internal combustion engine has a design operating temperature for maximum thermal efficiency and peak performance. If engine temperatures are too high, excessive wear and oil consumption, loss of power, and mechanical failure can result. Too low an operating temperature can cause poor fuel economy, crankcase sludge accumulation, and excessive wear of vital engine parts. All Chevrolet-built engines except Corvair are water-cooled—the Corvair's unique rear-mounted aluminum engine is air-cooled.

■ **Water Cooling**—Engine coolant (water or mixture of water and antifreeze) is circulated through the cooling system by a high-capacity centrifugal pump. The water pump shaft turns in two double-row ball bearings (see illustration), with self-



V8 Water Pump

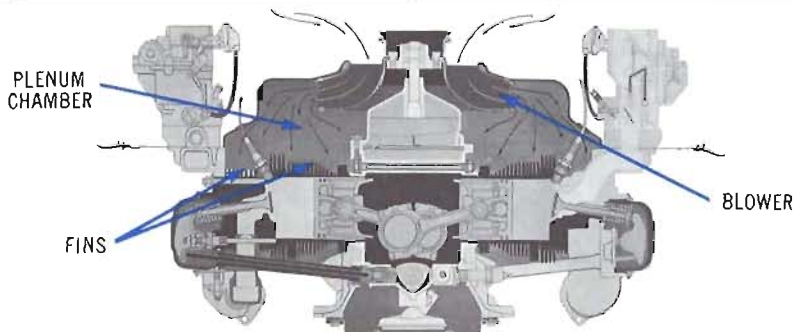
adjusting seals at the impeller end. Coolant circulates through internal passages surrounding the cylinders, through the cylinder heads, and around valve seats, valve guides, and valve ports. Full-circle cooling of cylinders on all Chevrolet water-cooled engines helps prevent heat distortion and contributes to greater durability. Temperature is controlled by a thermostat that regulates the



Full-Circle Cooling of 140-hp Turbo-Thrift 230 Engine

coolant flow to the radiator (see Radiator and Thermostat). Cooling systems are pressurized to raise the boiling point of the coolant and increase the heat-absorbing capacity (see Radiator Cap, Pressure-Vent).

■ **Forced-Air Cooling**—Standard cooling system for all Corvair aluminum engines. Forced-air cooling eliminates the need for seasonal cooling system maintenance and helps reduce car weight. The excellent heat dissipation properties of aluminum make the Corvair engine particularly suited for air cooling. Cooling air enters the engine compartment through louvers styled into the compartment lid on regular Corvair models, and through louvers in the sidewalls of Greenbrier Sports Wagons. Both cylinder banks are enclosed to form plenum chambers (see illustration). A centrifugal blower forces cooling air into the plenum chambers where it circulates around cylinders and cylinder heads that are deeply finned for added surface exposure. Heat from the fins is transferred to the cooling air flow and forced through outlet doors in the plenum chambers and louvers in the exhaust grille below the rear bumper. The volume of



Forced-Air Cooling of Corvair Engines

cooling air passing over the engine is regulated by thermostatically controlled doors that control the amount of air leaving the plenum chamber. In normal function, door opening angles will vary between full open and full closed to keep engine and engine compartment temperatures within the normal operating range.

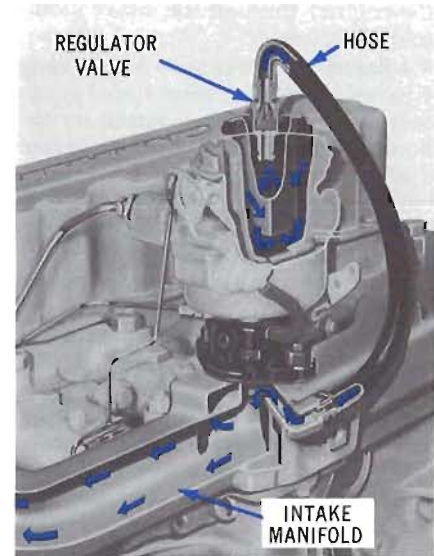
CRANKCASE VENTILATION

Proper engine ventilation minimizes contamination of lubricating oil and contributes to longer engine life. Chevrolet-built engines feature one of two positive crankcase ventilation systems that direct fumes to the induction system so they are burned in the combustion chambers and expelled through the exhaust:

■ Positive-Type Crankcase Ventilation

—A special regulating valve is connected by tubes and special corrosion-resistant rubber hose between the crankcase vent outlet and the low-pressure vacuum source (carburetor base at manifold side of throttle plates, or manifold). Fresh air entering the engine through the oil filler cap is metered by small holes punched in the metal separator used to partition the oil-wetted aluminum filter ribbon. The regulator valve, governed by engine manifold vacuum, controls the flow of fumes to the induction system and prevents disrupting the fuel-air balance. During periods of high manifold vacuum (idle or part-throttle operation) the valve automatically limits the quantity of fumes. Low manifold vacuum operation (high speeds) opens the regulator valve and permits more fumes to be vented and burned.

■ **Positive-Closed Type Crankcase Ventilation**—Basically similar to the positive-type except that ventilating air is drawn through the carburetor air cleaner instead of the oil filler cap. With the positive-closed type system, the oil filler cap has no air openings. A tube from air cleaner to rocker cover on conventional Chevrolet 6-cylinder or to extension fitting on V8 oil filler tube directs



Typical Positive Crankcase Ventilation System

filtered air into the engine. The positive-closed type system is standard on some engines, optional on others—see Engine Specifications and Options and Accessories sections.

D

DECK LID OPENER, POWER-OPERATED

A convenience feature permitting remote control opening of the luggage compartment from inside the car. T-handle located inside the glove compartment controls a vacuum-operated power cylinder that releases the deck lid latch. Dealer-installed accessory for all regular Chevrolet models except Station Wagons.

DISPLACEMENT, PISTON

A measurement of engine size, expressed in cubic inches displaced by the piston as it moves from the bottom to the top of the cylinder, multiplied by the number of cylinders. Larger displacement usually indicates greater potential engine output. For displacement of each engine, see Engine Specifications.

DOMELIGHT, CARGO COMPARTMENT

Dealer-installed accessory and part of Custom Equipment option (RPO Z60) for Greenbrier Sports Wagon. Second dome light at the rear of the cargo compartment permits additional interior illumination. Light is operated manually by light switch on instrument panel and integral switch at light.

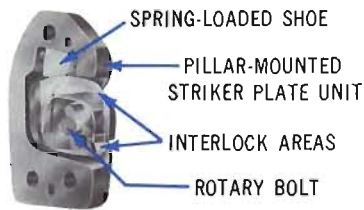
DOORS

Extra-rigid double-panel steel construction on all Chevrolet, Chevelle, Chevy II, and Corvair models—

steel-reinforced double-panel fiberglass on Corvette models. Window frames are integral with the door structure on all models except hardtops and convertibles. On regular Chevrolet Convertible, Sport Sedan, and Sport Coupe models, windows are edged with bright metal framing and are specially channeled and supported to open and close without the sedan-type full perimeter frame. Doors on all models have drains in the bottom panel to prevent accumulation of water.

■ **Door Hinges**—Wide opening offset-arm type with built-in check on all doors. Front doors of regular Chevrolet models have two-position hold-open checks. Strap-type hinges on Greenbrier side and rear cargo doors have unique full-opening door checks that contribute to greater loading convenience (see Greenbrier Body Features).

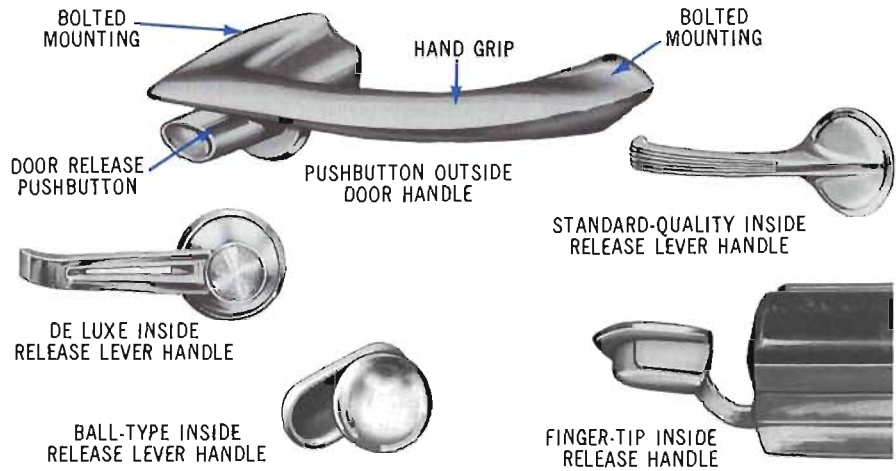
■ **Door Latches**—Chevrolet, Chevy II, Corvair, and Corvette: Rotary safety type with double-lipped lock strikers increase the contact area for



Rotary Safety Door Latch

positive latch engagement. Chevelle and El Camino: Fork-type positive engagement safety latch securely locks door in position. Cap on the end of the bolt helps prevent lateral door movement.

■ **Door Locks**—Chevrolet and Chevelle: Front doors lock by key from outside and by window sill pushbutton from the inside—rear doors by pushbutton from the inside only. Keyless locking feature permits locking all doors from the outside with window sill pushbuttons in lock position and closing door with outside door handle pushbutton held in. Chevy II and Corvair: Front doors lock by key from outside and from the inside by moving door release handle forward—rear doors by pushbutton from inside only. Corvette: Doors lock by key from outside and from the inside by turning center section of upper safety reflector. Keyless locking feature similar to Chevrolet permits outside locking by holding the door handle pushbutton in and closing the door with safety reflector in lock position.



Door Latch Release Types

■ **Door Handles**—Push-button-type outside door handles are featured on the doors of all models except Greenbrier side cargo doors which use a lever-type release. Inside door release handle styling varies according to models application (see illustration): finger-tip styled—Impala Super Sport and Impala models; de luxe dual-arm styled—Chevrolet Bel Air, Chevy II Nova, Corvair Monza and Spyder, and Chevelle Super Sport, Malibu, and Custom El Camino models; standard single-arm styled—Chevrolet Biscayne, Chevelle 300 and El Camino, Corvair 700, 500, Greenbrier, and Chevy II 100 models; ball-type release—Corvette Sport Coupe and Convertible.

DOOR SAFETY LOCKS, REAR

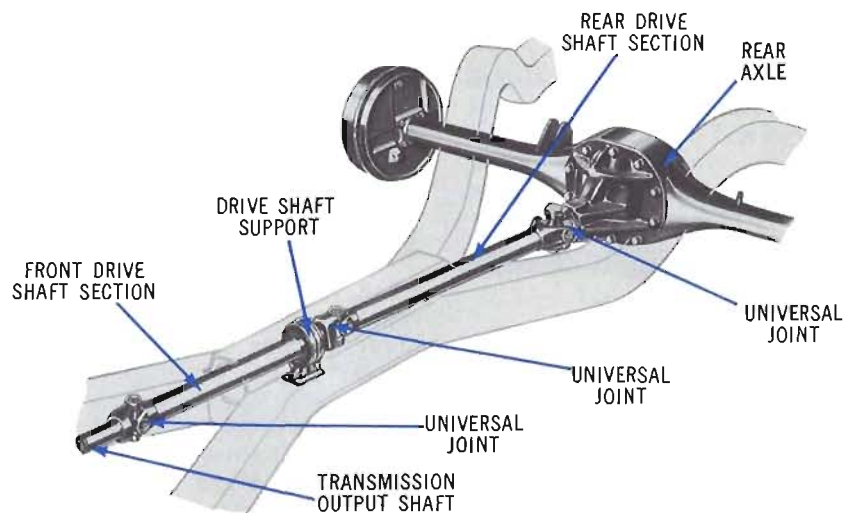
Dealer-installed accessory for 4-door models. Mechanism on each rear door locks pushbutton so children cannot release door latch.

DRIVE SHAFT

Transmits engine torque from the transmission to the rear axle drive pinion. All models except Corvair and Greenbrier use a drive shaft connection between the transmission and the rear axle unit—Corvair transaxle drive design splines the rear axle drive pinion directly to the transmission output shaft.

■ **Single-Unit Drive Shaft**—Used on all Chevelle, Chevy II, and Corvette models. One-piece balanced tubular steel shaft connected to the transmission output shaft and the axle drive pinion shaft by universal joints with sealed-in lubricant.

■ **Two-Unit Drive Shaft**—Used on all regular Chevrolet models. Balanced tubular steel front and rear shaft sections are connected by universal joints at the center, and to the transmission and axle at the ends. The rear end of the front shaft is sup-



Chevrolet Two-Unit Drive Shaft

ported by a bearing rubber-mounted inside the frame center structure (see illustration). Relatively short sections of shaft are more rigid and contribute to smoother operation, and two-unit design permits low center structure for added interior roominess. Center bearing and both joints have sealed-in lubricant.

E

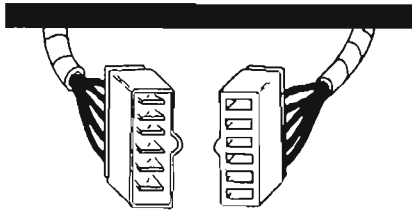
ELECTRICAL SYSTEM

12-volt electrical system, standard in all models, produces power to start and run the engine, and operate lights, horns, windshield wipers, and other electrical equipment.

▪ **Generating System**—Includes generator, voltage regulator, battery, and wiring.

▪ **Starting and Ignition System**—Includes starter, ignition coil, distributor, spark plugs, battery, ignition switch, and cables.

▪ **Wiring**—All wires in electrical system are sheathed in colored vinyl plastic insulation. Individual color identifies each circuit. With few exceptions, all wires are enclosed in a wiring harness designed in sections according to location and function.



Example of Wiring Harness Connectors

Connectors in harness include terminals for all circuits in each section and are designed so they can't be joined incorrectly, virtually eliminating the possibility of short circuits during servicing.

▪ **Fuses**—Safety fuses for all electrical accessories and all lights except headlights and parking lights are installed on convenient fuse block. (See individual Owner's Guides for fuse block locations.) Fuse for Over-



Typical Fuse Block

drive electric engagement mechanism is located in wiring harness just forward of dash panel.

▪ **Circuit Breaker**—Headlights and parking lights are protected by thermal circuit breaker built into the headlight switch. Excessive current flow will cause circuit breaker points to open and close, and flickering of lights warns of probable short in wiring system.

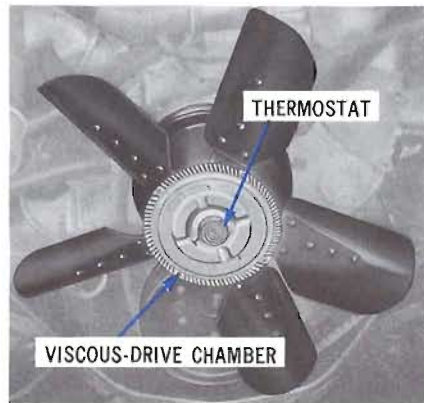
ENGINE BALANCING

All Chevrolet-built engines are precision-balanced for smoother operation and longer engine life. Crankshafts are dynamically balanced using special equipment and then assembled with balanced flywheels and weight-matched piston and connecting rod sets. All V8 engines, in addition, are electronically balanced after assembly.

F

FAN, ENGINE

On all water-cooled engines, fan works in conjunction with high-output water pump to lower engine coolant temperature by maintaining air flow through the radiator core. Fan is mounted on end of water pump shaft and is driven with pump and generator by V-belt from the crankshaft. Fan blades are spaced so as to dampen out sounds and vibrations of air movement. For specific fan details see individual Engine Specifications.



Temperature-Controlled V8 Engine Fan

▪ **Fan, Temperature-Controlled**—High-capacity temperature-controlled 5-blade viscous drive fan permits quicker engine warm-up, operates more quietly and absorbs less engine power. Fan is driven through a fluid clutch that is sensitive to underhood temperature. When the underhood temperature is less than 140 degrees F., the fan turns at minimum speed. As the underhood temperature rises, a thermostatically controlled valve

regulates the amount of fluid entering the viscous-drive clutch chamber, increasing fan speed for additional cooling. Standard on 327- and 409-cu.-in. V8 engines; optional (RPO K02) or dealer-installed accessory for 230-cu.-in. Six and 283-cu.-in. V8 engines; also included as part of factory-installed Air Conditioning option with 230-cu.-in. Six and 283-cu.-in. V8.

FINISH

Every Chevrolet model is carefully finished with a smooth, durable surface for maximum protection and exceptional appearance. All models except Greenbrier are finished in a wide range of lustrous Magic-Mirror acrylic lacquer colors—Greenbrier models are finished with a high-quality synthetic enamel. See individual Trim and Color Selections for choice of colors available with each model.

▪ **Magic-Mirror Acrylic Lacquer**—Color pigments and metallic particles are suspended in an extra-hard weather-resistant acrylic coating that retains the richness and depth of Magic-Mirror colors longer. Acrylic lacquer finishes have exceptional resistance to fading, chalking, staining, and chipping—are smooth and uniform, without the orange peel roughness noticeable in ordinary finishes. Damaged areas can be economically repaired without refinishing entire sections. Extra care in preparation helps produce a longer lasting easier-to-care-for finish:

Rustproofing—Chevrolet's Magic-Mirror finishing process begins with a thorough chemical treatment that cleans and etches the metal surfaces for better paint adhesion and helps improve corrosion resistance.

Primer Coats—Four different and specially formulated corrosion-resistant primers are used during sub-assembly of the body where rust could possibly develop. Areas considered especially critical are subsequently coated with another type of rust-inhibiting compound after the lacquer coats have been applied.

A primer coat is applied to all outside and inside surfaces of the front fenders and hood by dipping or flow-coating to insure penetration in all seams and secluded areas, and then baked at 390 degrees F. for 30 minutes. After baking, a coat of sealer is applied to all surfaces to be lacquered.

Primer-Surfacer and Flash Prime Coats—An air-dried flash prime coat is applied to surfaces below the beltline. Next, a full primer-surfacer coat is applied to all outside surfaces of the body receiving lacquer and then oven baked for 45 minutes

at 285 degrees F.

Initial Sanding—Power wet sanding followed by hand sanding is done on all surfaces requiring lacquer. Upon inspection, spot sanding assures smooth surface for the lacquer.

Lacquering—Multiple coats of acrylic lacquer are carefully sprayed on to build up a finish of the required thickness for each color. **Initial Baking**—To increase the finish hardness for final sanding, the body is baked for approximately 10 minutes at 200 degrees F.

Final Sanding—After lacquer application and initial baking, final wet sanding (both power and hand) prepares the body for final baking by removing any surface irregularities.

Final Baking—To assure a durable, hard, high-luster finish, the lacquer is final-baked for 30 minutes at 275 degrees F. Reheating the lacquer after final sanding permits paint film to soften and helps surface blemishes and sanding scratches disappear.

Final Finishing—Any slight mars, nicks, or scratches that might occur during final assembly are repaired, and painted surfaces polished to a high-luster finish.

■ **Greenbrier Synthetic Enamel**—Greenbrier Sports Wagon bodies are finished with the same high-luster material used on Chevrolet commercial vehicles—an advanced synthetic enamel of exceptional color and gloss retention for easy maintenance and high durability. Its extremely hard surface, as much as six times harder than that of other enamels, offers greater protection from marring and scratching, and reduces chipping. In preparing body for enamel, body steel is treated with chemicals that clean it, make it rust-resistant, and etch it for good paint adhesion. Then the entire body is coated with corrosion-resisting paints, followed by a prime coat. Two coats of synthetic enamel complete the finish. In addition, elaborate measures are taken to protect the body undersurfaces from corrosion—see Greenbrier Body Features section.

FLOOR MATS

Dealer-installed accessory floor mats are available with most models for protection of regular floor covering. See individual Options and Accessories sections for color availability and other details.

■ **De Luxe Full-Width Floor Mats**—High quality rubber front and rear passenger compartment mats are contoured to fit the floor areas and over the transmission tunnel. Available in harmonizing colors to match interiors on all models except Greenbrier and Corvette, and in clear vinyl on Chevrolet only.

■ **De Luxe Contour Floor Mats**—High quality rubber front and rear floor mats are contoured to fit floor areas only, and do not cover the transmission tunnel. Color-keyed to match interiors. Available on all models except Greenbrier and Corvette. Special mats for Corvette are available in clear vinyl.

FLYWHEEL

Cast alloy iron flywheel used with Synchro-Mesh transmission in Chevrolet, Chevelle, Chevy II and Corvette adds momentum to help keep crankshaft rotating smoothly. In Corvairs with Synchro-Mesh transmission, the 3-piece flexible flywheel is designed to damp out vibrations and any radial deflections before they are transmitted to drive shaft. With all automatic transmissions, fluid in the hydraulic torque converter increases momentum so a lighter steel flywheel can be used.

FOAM PLASTIC

Polyurethane, a modern plastic, is formed with many air cells that give it resiliency similar to foam rubber, making it highly comfortable as a cushioning material for seats. In addition, its sponge-like qualities plus great resistance to the effects of dirt and oil make it excellent for the element of oil-wetted air cleaners.

FOAM-CUSHIONED SEATS

Standard in front seats of all models and in the rear seats of most models. See individual model Interior Features and Appointments for specific information.

FUEL

Gasoline is graded according to octane number. Regular grades of gasoline usually have a rating of 88 to 94 octane, premium grades 96 to 100 octane, and special premium grades over 100 octane. The grade of gasoline recommended for an engine should be used for best performance, economy, and longer engine life. To help compensate for variations in gasoline, the ignition distributor may be adjusted so that the engine will operate without detonation (knocking) with most gasolines. See individual Engine Specifications for recommended grades of fuel.

FUEL GAUGE, ELECTRIC

Standard in all models. A float in the fuel tank rises or lowers with any change in gasoline level. This movement is transmitted electrically from the sending unit in the tank to the instrument panel gauge. The panel gauge has graduated markings between E (empty) and F (full). Accuracy of the gauge is increased by a counterweight to stabilize the position of the indicator hand. When the

ignition switch is turned off, the pointer may vary between the empty and full marks and the reading should be ignored.

FUEL INJECTION, RAMJET

Feature of the optional 375-hp Corvette V8 engine. The Corvette constant-flow fuel injection system delivers equal amounts of fuel-air mixture, in precisely metered air-gasoline ratios, directly to the cylinders for instantaneous accelerator response, higher power output, exceptional overall fuel economy, and the elimination of carburetor icing.

■ **Intake Manifold**—An air inlet duct carries filtered air from the air cleaner to the intake manifold. The precision-cast aluminum manifold consists of an air chamber and eight ram tubes (one for each cylinder) leading directly to the intake ports in the cylinder heads. Engine air supply is controlled by an accelerator-operated throttle valve in the air chamber.

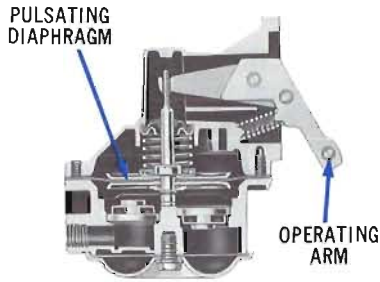
■ **Air Meter**—Admits air in measured amounts into the intake manifold chamber when the throttle valve is opened, and at the same time actuates the fuel meter so fuel can be supplied.

■ **Fuel Meter**—Contains fuel reservoir, high-pressure pump, fuel control system, diaphragms that control fuel rate according to speed and load, and auxiliary controls for starting. The fuel meter receives gasoline from the fuel pump and proportions the amount of gasoline for injection to the amount of air entering the engine (as measured by the air meter) for correct fuel-air mixture. A high-pressure pump delivers gasoline in equal amounts to nozzles.

■ **Nozzles**—Calibrated brass nozzles spray gasoline directly into the intake ports in the cylinder heads. As air passes the nozzles, it mixes with the gasoline to form the fuel-air mixture. When the engine is idling, air bleed holes allow the nozzles to function like individual carburetors. When the fuel-air mixture reaches the combustion chambers, combustion takes place in the same way as in carbureted engines.

FUEL SUPPLY SYSTEM

Includes fuel tank, fuel pump, and fuel lines that carry gasoline from the tank to the pump and from the pump to the carburetor. Components of the fuel supply system are located as far as possible from the hot portions of the engine and exhaust system to help prevent vapor lock. Although they differ in details, systems for Chevrolet, Chevelle, Chevy II, Corvair, and Corvette are essentially



V8 Fuel Pump

the same. The camshaft-driven fuel pump (crankshaft-driven on Corvair) draws gasoline from the tank and delivers it to the carburetor as needed. All fuel tanks are constructed of two ribbed terneplate stampings seam-welded and soldered together to prevent leakage. In Chevrolets (except Station Wagons), and all Chevelle and Chevy II models, tank is mounted behind the rear axle. Chevrolet Station Wagon fuel tanks are located between the body side panels high in left rear quarter behind the rear wheel. Corvair tank is mounted in a recess of the body structure between the underhood luggage compartment and the passenger compartment (Greenbrier fuel tank is above the front suspension system). In Corvette, the fuel tank is located between the bulkheads behind the luggage compartment and above the spare tire.

FUEL TANK FILLER, VENTED

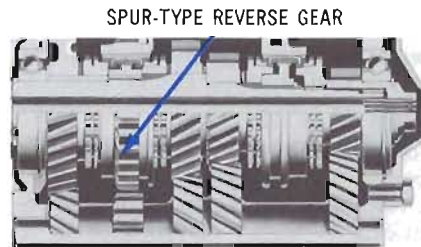
All regular Chevrolet models except Station Wagons have a fuel tank filler neck with inner and outer concentric pipes for rapid, splash-free filling. Fuel is directed down the inner pipe while vented air escapes between the pipes. At the upper end of the inner pipe, holes permit a slight build-up of vented air to supply the back pressure necessary to shut off automatic pump nozzles. This concentric venting system permits a fuel flow rate 50 per cent greater than the flow rate of most automatic service station nozzles. In Chevy II, Chevelle, and Corvair, another system of venting permits a sufficient filling rate for gasoline station pump output. A vent line joins the filler neck near the top, and a vented fuel tank cap provides opening to the atmosphere. The standard fuel tank filler cap used on all models is a positive locking cam-action type. The extra-large Corvette filler neck requires no venting except for the filler cap.

G

GEARS

Various shapes and sizes of gears are used in Chevrolet mechanical components to transmit and direct power, and to either increase or decrease torque multiplication. All gears used in the transmissions, rear axles, engines, steering systems and other components of Chevrolet models are carefully engineered and precision-built for smooth, quiet operation and maximum durability.

▪ **Spur Gears**—A spur gear is a simple type of gear design with the gear teeth cut straight across (see illustration). Although spur gears are



Transmission Spur-Type Reverse Gears

highly efficient, they are not as quiet as helical gears, and are used only for starter pinion and flywheel ring gears on all engines, and for reverse gears on Corvair 4-Speed Synchromesh transmissions.

▪ **Helical Gears**—Helical gear teeth are cut at an angle (see illustration)

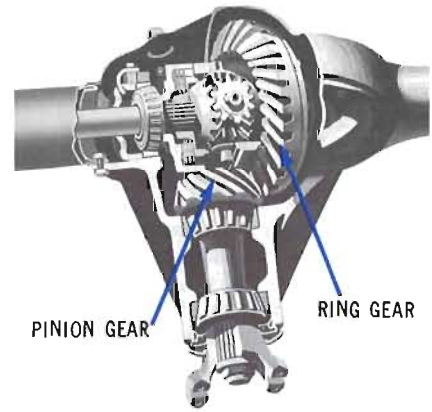


Helical Gear Teeth

to increase tooth contact surface for greater durability and quieter operation. Helical gears are used extensively in transmissions and as engine timing gears.

▪ **Bevel Gears**—Bevel gears have a conical or tapered form, and are used for rear axle differential pinion and side gears.

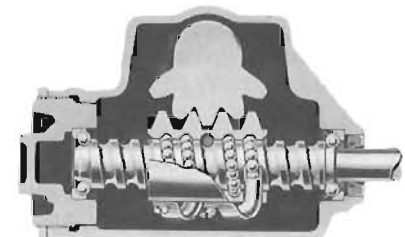
▪ **Hypoid Gears**—Feature of all Chevrolet rear axles (see illustration). Hypoid gears are a special type of bevel gear in which the axis of the drive pinion is offset from the axis of the ring gear. Chevrolet, Chevelle, Chevy II, and Corvette rear axle



Hypoid Pinion and Ring Gear

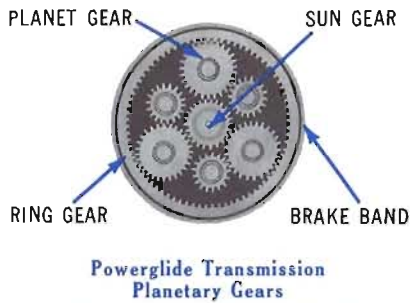
drive pinions are offset below to lower the drive shafts for greater interior roominess. (In the Corvair and Greenbrier rear-mounted transaxle unit, the drive pinion is offset above the ring gear axis.) Hypoid gears are smoother running than other bevel gears because of a slight sliding action between the engaging teeth and more durable due to better load distribution on the teeth.

▪ **Worm Gears**—Worm gearing is used either for reduction of velocity or where high mechanical advantage is required. Chevrolet uses worm gears for driving speedometer cables, and for steering gears (see illustration) where relatively little steering effort must overcome comparatively high resistance at the front wheels.



Ball-Race Steering Gear

▪ **Planetary Gears**—Planetary gears are used in Powerglide and Overdrive transmissions to increase or reduce overall torque multiplication ratios. There are three components



in a planetary gearset (see illustration): the sun gear at the center, planet gears mounted on a planet carrier, and the ring gear. The planet gears are always in mesh with the sun and ring gears, and any of these units can be held stationary while either of the other two can be the driving or driven member. For example, if the sun gear is the driving unit and the ring gear is held stationary by a brake band around its circumference, the planet gears will "walk" around inside the ring gear, transferring this rotary motion to the planet carrier.

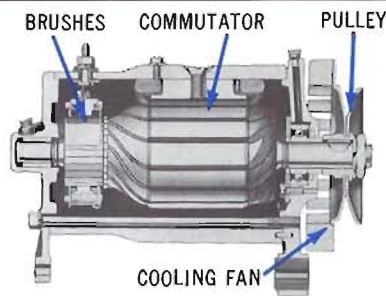
GENERATOR

Converts mechanical energy from the engine into electrical energy to maintain the battery at the proper charge level. A generator regulator opens and closes the charging circuit automatically to prevent possible damage to the generator and battery. A commutator-rectified generator is standard on all Corvair and Greenbrier models, and a Delcotron diode-rectified generator on all other models. Both types produce an alternating current that has to be changed, or rectified, to be used with a direct current battery electrical system, and the principal difference is in the current pick-up and rectification. Corvair generators use a commutator and brushes to change the alternating current to direct current. The Delcotron uses a silicone diode system of rectification (see illustrations).

■ **Delcotron Diode-Rectified Generator**—Standard on all models except Corvair. Diode-rectified air-cooled generator with an all-transistor voltage regulator. Higher output at idle and low engine speeds contributes to longer battery life. For even greater electrical reserve, extra output Delcotrons are available as Regular Production Options. See Engine Specifications for standard Delcotron ratings . . . Options and Accessories sections for optional Delcotrons.

■ **Corvair Commutator-Rectified Generator**—Two-brush, shunt-wound, 30-ampere output, air-cooled genera-

tor with combined vibrator-type voltage and current regulator and cutout relay. Standard on all Corvair and Greenbrier models. An optional 35-ampere low cut-in generator (RPO K71) is available for applications requiring greater output.



GENERATOR WARNING LIGHT

Standard in all Chevrolet, Chevelle 300 and Malibu, and Chevy II models. When generator output is below normal, the warning light on the instrument panel glows red. Light comes on when ignition switch is turned ON, and will remain lit while engine is being cranked. However, if the light glows during normal operation, it indicates the generator is not charging the battery.

GENERATOR-FAN WARNING LIGHT

Standard in Corvair models. A single light, labelled GEN-FAN, serves as both a generator warning light and a warning light for the air cooling system. It functions in the same way as the Chevrolet, Chevelle, and Chevy II generator warning light, but if it remains lighted during normal operation, it may indicate the fan belt that drives the cooling system blower is slipping or broken.

GLASS, SAFETY

High quality safety glass is standard in every window except the vinyl plastic rear window of all Convertible models, and the plexiglass window in the Corvette Convertible optional hardtop. Safety glass affords excellent visibility and maximum protection by its ability to resist severe impact before breaking, and if broken, by the way in which it breaks. Four kinds of safety glass are used: laminated safety plate glass, laminated safety sheet glass, solid safety plate glass, and solid safety sheet glass. Laminated safety glass consists of sandwich of two panes bonded together by tough blister-proof clear plastic to which glass particles adhere if the glass is broken. Solid safety glass is formulated so that it breaks into small blunt-edged chunks or powder. Safety plate glass is ground and polished for clear, sharp, comfortable visibility. Types of glass used in various windows are as follows:

■ **Chevrolet, Chevelle, and Chevy II**—Laminated safety plate glass in windshield; solid safety plate glass in ventipanes and other windows.

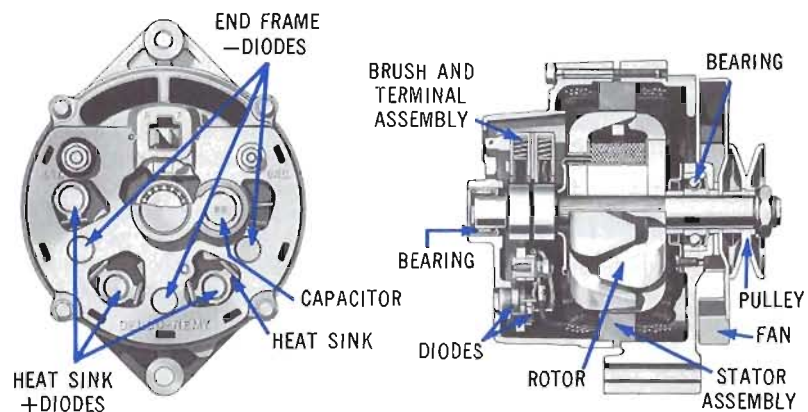
■ **Corvair Except Greenbrier**—Laminated safety plate glass windshield; solid safety plate glass in ventipanes and all other windows.

■ **Corvair Greenbrier Sports Wagon**—Laminated safety plate glass in windshield; solid safety sheet glass in ventipanes and all other windows.

■ **Corvette**—Laminated safety plate glass in windshield; solid safety plate in ventipanes, door windows, and Sport Coupe rear window.

GLASS, SOFT-RAY TINTED

Optional in windshield alone (RPO A02) or in all windows (RPO A01) of Chevrolet, Chevelle, Chevy II, and Corvair models except Green-



Delcotron Diode-Rectified Air-Cooled Generator

brier Sports Wagon. Blue-green tint reduces glare and lessens radiant solar heat transfer for a cooler passenger compartment. The dark tinted band at the top of the windshield helps protect eyes from sun glare. Except for tinting, the glass for each window is the same, either laminated or solid, as untinted glass.

H
HARDTOP, REMOVABLE PLASTIC

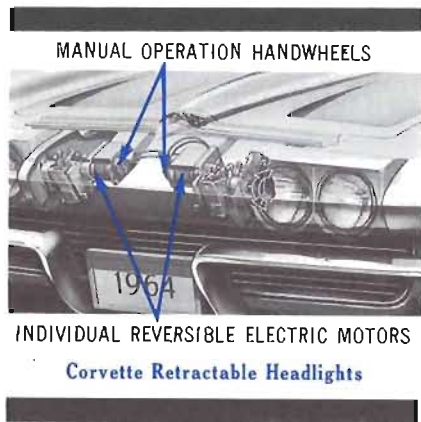
Optional (RPO C07) for Corvette, The removable hardtop is available for alternate use with the convertible top. The hardtop is made of the same lightweight fiberglass-reinforced plastic as the body, and is relatively easy to lift off and on. Headlining is keyed to seat upholstery while exterior matches body color.

HARMONIC BALANCER

Feature of all 6-cylinder engines except Corvair standard engines and all V8 engines except 195-hp Turbo-Fire 283. Harmonic balancer on the front of the crankshaft oscillates to help dampen out torsional vibrations of the crankshaft, reducing stresses on the crankshaft and contributing to a smooth, quiet flow of power. In Corvair standard engines, a flexible steel disc between the flywheel weight and the flywheel hub dampens out crankshaft vibrations similar to the harmonic balancer.

HEADLIGHTS, RETRACTABLE

Feature of both Corvette Sting Ray models. Power-operated headlights are completely concealed when retracted, with flush panels that blend smoothly into the body contours. In

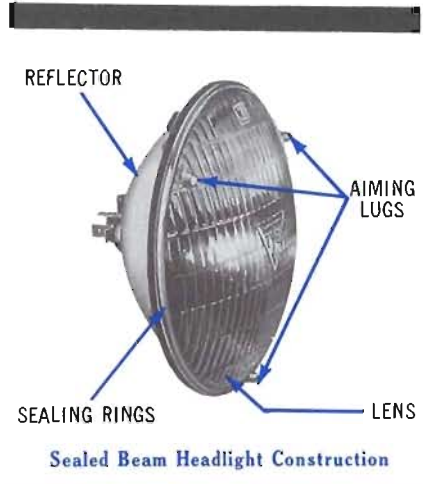


addition to a more pleasing appearance, aerodynamic qualities are improved with headlights retracted. A convenient two-way switch on the instrument panel controls individual reversible electric motors between the headlights. Lights are turned on by a conventional push-pull instrument panel switch. A special warning light in the instrument panel indicates if

the headlights are on but not in the fully aimed position. Headlights may be manually operated by means of handwheels at each motor, and may be locked in the open position if required by local law.

HEADLIGHTS, SEALED BEAM

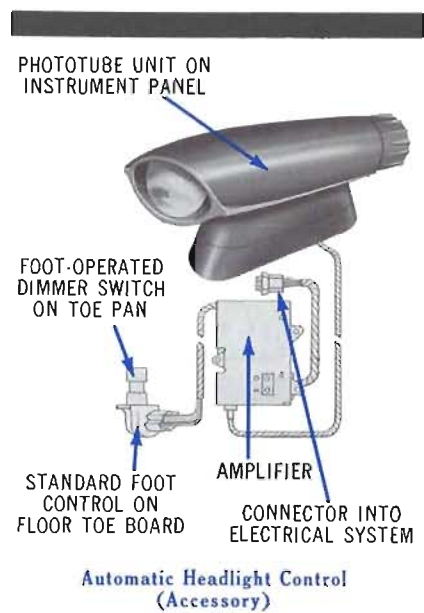
Standard on all models. Chevy II models have two 7.0" diameter headlamps—all other models have 5.72" dual-unit headlamps. Lenses are precision-molded with configurations in the glass that help direct light rays while reducing glare, and guide points (see illustration) for accurate headlight aiming. The sealed lens and reflector assembly excludes dust



and moisture to help maintain efficient lighting longer. Black shields above the filaments help prevent stray light rays from shining upward and reflecting back into driver's eyes from fog, rain, and snow. A switch on the instrument panel turns on the headlights, and a foot switch at the left side of the toe panel selects either low or high beam. A red light in the instrument cluster indicates when the high beam is on.

HEADLIGHT CONTROL, GUIDE-MATIC

Dealer-installed accessory for all regular Chevrolet models. An electronic device that automatically switches the headlamps from high to low beam and back is actuated by the headlights of oncoming cars. A phototube mounted on the instrument panel (see illustration) picks up the headlamp rays of approaching cars and converts them into electrical impulses, which are transmitted to the amplifier unit. The amplifier builds up the impulses and actuates the dimmer switch, automatically dimming the headlights to low beam. As the other car passes and the light activating the phototube diminishes, the headlights are automatically returned to high beam. Lightly depressing and holding the foot-oper-



ated dimmer switch can override the phototube control and return the lights to high beam, if desired.

HEADLINING

Easy-to-clean vinyl cloth or vinyl-coated trim covering the roof panel and structural members within the passenger compartment. Chevrolet, Chevelle, Chevy II, and Corvair (except Greenbrier) feature an embossed vinyl cloth headlining color-keyed to complement the interior trim. Greenbrier headlining consists of white vinyl-coated jute between the roof bows. Both the Corvette Sport Coupe headlining and the Convertible optional hardtop headlining are vinyl-coated fiberglass color-keyed to the interior trim.

HEATER AND DEFROSTER

Factory-installed equipment included on all models except Greenbrier. Forced-air and gasoline-type heater and defroster systems are available for Greenbrier models as factory-installed options or as dealer-installed accessories (see Corvair Options and Accessories section). Heater and defroster equipment may be deleted on all other models by credit option (RPO C48).

■ **Blended-Air Heater and Defroster**—Included equipment on all Chevrolet, Chevelle, Chevy II, and Corvette models. Systems for each model are basically similar in function, though different in details. The blended-air principle permits almost instantaneous blending (mixing) of heated and unheated outside air for wide-range temperature control. Outside air enters through the cowl vent louvers near the base of the windshield and is directed by ducts through and around the heater core to the blending chamber, then to



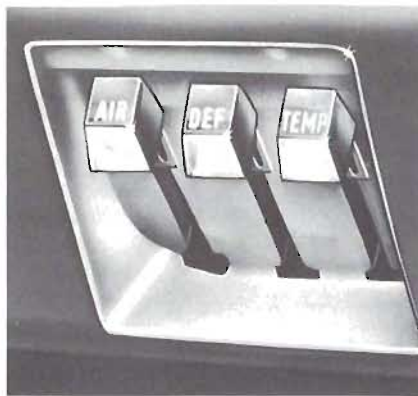
Chevrolet



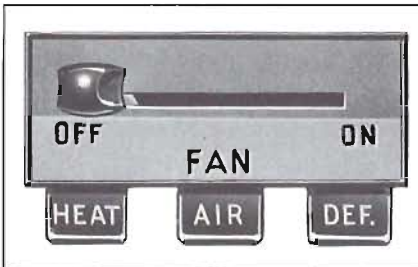
Chevy II



Corvette

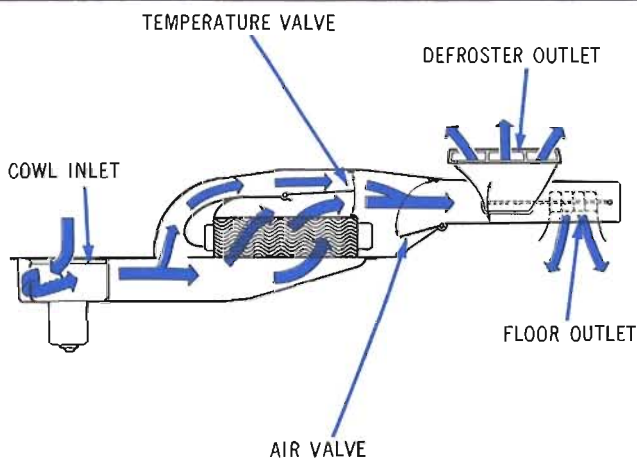


Chevelle



Corvaire

Heater Controls



Chevrolet Blended-Air Heater Diagram

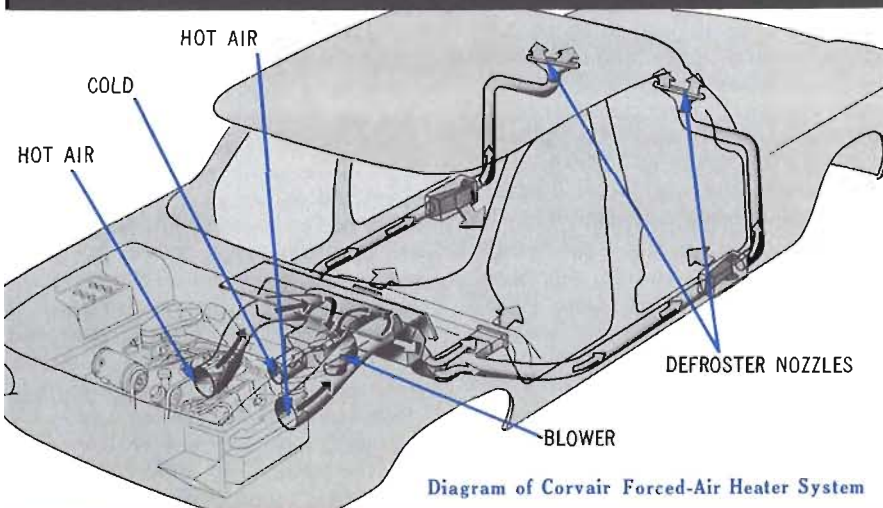
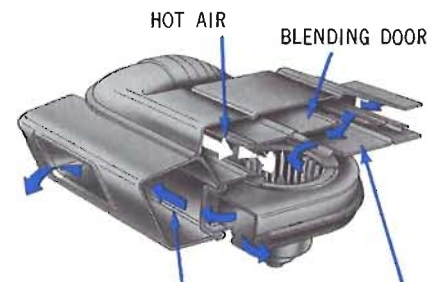


Diagram of Corvaire Forced-Air Heater System

outlets in the passenger compartment (see illustration). Adjusting the TEMP and AIR valves regulates the amount of air passing through the heater core and the volume of blended air entering the passenger compartment. See individual Owner's Guides for complete operating instructions.

■ **Forced-Air Heater and Defroster**—Included equipment on all Corvaire models except Greenbrier. Available on Greenbrier models as a factory-installed option or a dealer-installed accessory. The Corvaire forced-air heater distributes heated air from shrouds at the sides of the engine through ducts to the floor and defroster outlets (see illustration). This unique perimeter system virtually surrounds the passenger area with heat outlets for more uniform air distribution. Air for the system is heated by rejected engine heat and blended to the desired temperature by adjusting the HEAT control. This control regulates the mixing of hot air from the lower shroud area and tempering air from an area higher on the shrouded engine. The AIR control operates the shut-off door between the mixing chamber and the tempering air duct. Blended air is forced by the heater blower (see illustration) into the distributor duct and then to the floor and defroster outlets. The system is similar on Green-



Corvaire Forced-Air Heater Air Flow

brier except for air distribution modifications necessary with the van-type body. See Corvaire Owner's Guide for complete operating instructions.

■ **Gasoline Heater and Defroster** — Available as a factory-installed option or a dealer-installed accessory for Greenbrier models only. The Greenbrier gasoline heater is a quick-acting high-efficiency unit that offers almost instantaneous heating of outside air. Ignition and burning takes place in a cylindrical stainless steel burner. Before leaving through the exhaust pipe, the hot combustion gases pass through the heat exchanger, a double-walled cylinder

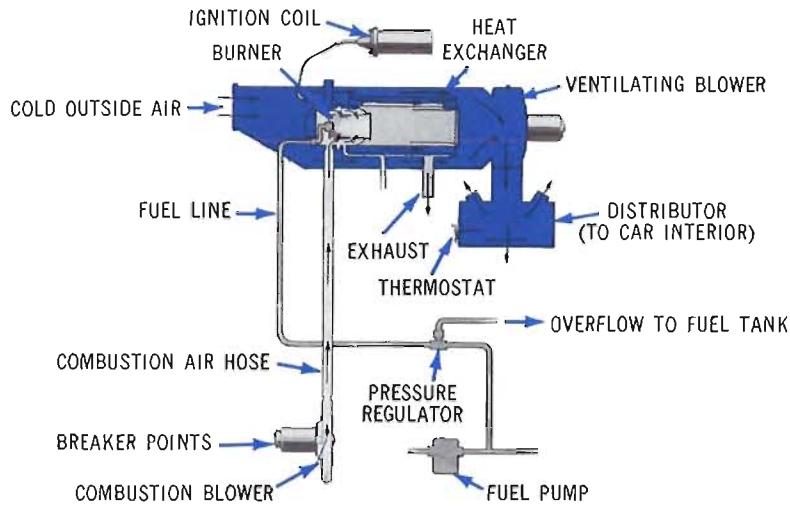


Diagram of Corvair Accessory Gasoline Heater

surrounding the burner. The incoming air, traveling in the duct enclosing the burner-heat exchanger assembly, passes over the outside of the heat exchanger, absorbing heat through the stainless steel walls. Air for combustion enters the burner through holes in the wall of the mixing cup, a short opened cylinder. Gasoline is supplied from the regular fuel tank by the engine fuel pump, and is sprayed into the burner cup by a simple stationary nozzle at the closed end of the cup. A regulating valve in the fuel line maintains a pressure of 4 to 5 pounds per square inch at the heater. Fuel bled off by the regulator valve drains back into the gasoline tank. When fuel is sprayed into the mixing cup, it strikes a transverse baffle which helps atomize the gasoline, and the igniter (or spark plug) fires the mixture. The constantly sparking igniter insures against the fire going out as long as the unit is turned on. A circuit interrupter mounted on the back of the combustion blower motor breaks the contact twice each revolution between a pair of breaker points to maintain continuous ignition. See Corvair Owner's Guide for complete operating instructions.

HORSEPOWER (HP or hp)

A standard engineering unit of power equal to 33,000 foot-pounds of work per minute. The horsepower rating of an engine is an indication of the engine's ability to do work. Power is an expression of performance, or rate of doing work, and is work (force times distance) divided by time; foot-pounds per minute, for example. Higher horsepower engines can accomplish more work in a given period of time than engines of low horsepower. See individual Engine

Specifications for maximum horsepower ratings.

I IGNITION SYSTEM

The ignition system consists of a switch to open and close the circuit, a coil to induce high voltage, a distributor to make and break the low tension circuit and distribute high tension current to the spark plugs, plus all necessary wiring. Sealing of the coil and distributor plus ignition cable insulation and rubber boots covering the cable terminals at the distributor and spark plugs contributes to reliable starting. The special rubber used in all systems as insulation and sealing is highly resistant to the effects of weather, oil, dirt, and aging.

■ **Ignition Cables** — The high-tension electrical cables that connect the ignition coil, distributor, and spark plugs have a porous linen core impregnated with a semi-conducting electrical material sheathed in rubber. This non-metallic cable reduces radio interference and improves reception for car radios, nearby radio and television sets, and 2-way mobile communications systems. Corvettes equipped with radios include special metal ignition system shields to reduce radio interference otherwise isolated by the steel body on other models.

■ **Coil**—The ignition coil, hermetically sealed for more reliable operation under all weather conditions, transforms low-voltage electrical current into the high-voltage current that jumps the spark plug gap to fire the fuel-air mixture in the combustion chamber. A special by-pass circuit to the coil delivers an extra-powerful spark for starting.

■ **Distributor**—Driven by a gear on the

camshaft (crankshaft in Corvair models), the single-breaker distributor on all Chevrolet-built engines distributes high-voltage current from the ignition coil to each spark plug at precisely timed intervals. A combination of centrifugal governor weights and a vacuum mechanism (except on Monza Spyder 150-hp Turbocharged 145 engine) automatically advances or retards the spark timing for optimum performance with changes in engine speed and load. Spark timing is advanced centrifugally on Monza Spyder turbo-supercharged engines, and regulated by a special automatic pressure retard device during supercharger operation to prevent detonation. Operation of the pressure retard begins at a manifold pressure of one pound per square inch boost, and reaches maximum retard at two pounds per square inch boost. On V8 engines, a special door in the distributor cap permits setting the breaker points while the engine is running. The high-tower cap is designed to prevent shorts due to water inside the housing, and fits tightly to keep out dust and moisture.

■ **Ignition Switch, 4-Position**—Standard in Chevy II and Corvair models. Switch may be turned with the car key to any of four positions: LOCK—engine off, ignition locked; OFF, engine off, ignition unlocked (from this position, switch may be turned to ON or START); ON—engine and electrical accessories may be operated; START—switch, held in this position until the engine starts, returns automatically to ON when released. The car key can be removed only with the switch at LOCK or ON (key cannot be removed from switch in OFF) guarding against accidentally leaving the switch unlocked.

■ **Ignition Switch, 5-Position** — Standard in Chevrolet, Chevelle and Corvette models. The five-position ignition switch has the same features as the four-position switch plus an ACCESSORY position that can be selected only with the key in the switch. The key cannot be removed from the switch in this position. In ACCESSORY, the radio and heater may be operated without ignition system drain on the battery. The turn signals are also connected to the accessory terminal and can be used in event of emergency when it is necessary to have a flashing signal for long periods of time. The switch features a special lock-on electrical connector to help prevent car theft. All terminals are enclosed and cannot be removed unless the switch and connector assembly is first removed from the instrument panel.

IGNITION SYSTEM, FULL-TRANSISTOR

Optional (RPO K66) for 375-hp Fuel Injection V8, 365-hp Corvette V8, and all 409-cu.-in. V8 engines. The Delcotronic full-transistor system controls ignition electronically (instead of mechanically like conventional systems) for improved ignition at higher engine speeds, greater reliability and longer spark plug life. And since distributor contact points and condenser are eliminated, periodic maintenance or adjustments are not necessary, and starting is quick for the life of the system. Three major units, plus special wiring, comprise the Delcotronic system (see illustration): (A) Magnetic-Pulse Distributor—Similar externally to a conventional distributor, but with a rotating iron pole on the distributor shaft and a stationary magnetic pickup assembly instead of a cam and breaker points. The pickup assembly consists of a stationary pole, a pickup coil, and a special ceramic permanent magnet. Both the stationary and rotating poles have equally spaced teeth, one for each cylinder. A conventional vacuum-centrifugal spark advance is used. (B) Ignition Pulse Amplifier—The ignition pulse amplifier, or control unit, has a finned cast aluminum case housing the transistors and other electronic components. (C) Ignition Coil—Hermetically sealed, with special windings.

In operation, the rotating pole teeth pass by the teeth of the stationary pole, alternately building up and collapsing the magnetic field, inducing a voltage pulse in the pickup coil. Each voltage pulse is directed to the ignition pulse amplifier where it actuates the transistors that cause the coil to fire the spark plug.

INSTRUMENT PANEL PAD

Standard on Corvette models. Optional (RPO B70) for all Chevrolet, Chevelle, Chevy II, and Corvair models except Greenbrier. A vinyl-covered foam-plastic cushioning pad covering the upper instrument panel area. The vinyl covering matches the interior trim, but is dull-finished to reduce glare.

J

JACK, WHEEL

A jack of suitable capacity and design for each model is standard equipment. Chevrolet, Chevelle, and Chevy II use a bumper-type jack with a combination jack lever handle and wheel-nut wrench. Corvair models have a scissors-type jack with a combination lever handle and wheel-nut wrench. Greenbrier Sports

Wagons use a similar design jack, but of heavier construction. Corvettes also use a scissors-type jack, but of different design than for Corvair models, plus a folding-crank type handle and separate wheel-nut wrench. Complete operating instructions are shown on a sticker in the jack stowage area and included in the Owner's Guide.

K

KICK PANELS

Color-keyed front compartment floor kick panels contoured to fit between the front door openings and the dash panel are standard on all models. Chevrolet and Chevelle panels are formed of an extra-durable plastic with molded-in air ventilation grilles, and are highly resistant to scuffing, scratching, and staining. All other models use embossed fiberboard panels with the ventilation grilles mounted separately on each panel.

L

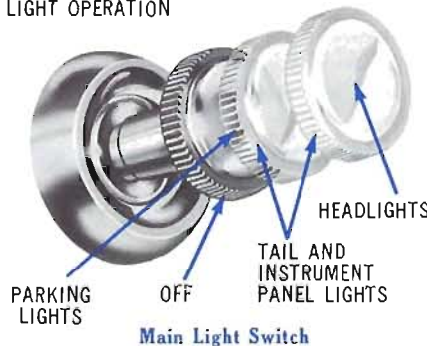
LATCHES

Latches are distinguished from locks in that they operate without using a key, although a key lock can be used to prevent the operation of the latch release mechanism. Some are hand-operated, such as convertible top to windshield fastenings, friction-type ventipane latches, and station wagon folding seat latches. Other latches, released by pushbuttons or levers, are used to secure lids, doors, hoods, glove compartment doors, and tailgates.

LIGHT SWITCH, MAIN

The main light switch on the instrument panel controls driving, instrument, and interior lights and includes a headlight circuit breaker (see Electrical System). Pulling the knob halfway back turns on the parking, tail, rear license, and instrument

KNOB TURNS TO VARY INSTRUMENT PANEL LIGHTS—TURNS FULLY COUNTER CLOCKWISE FOR DOME LIGHT OPERATION



panel lights; pulling it to the rear-most position turns the headlights on and the parking lights off (see illustration). Turning the knob adjusts a rheostat to change the intensity of the instrument panel lights; turning it fully to the left turns on the interior lights.

LOCK SYSTEM, SINGLE-KEY

A convenience feature standard on all models. One key operates all of the car locks: doors, luggage compartment or tailgate, glove compartment, and ignition switch. A separate key is required with the Station Wagon concealed stowage well optional lock and Corvair optional spare tire lock.

■ **Keys**—The two car keys included with all models have an identification number on the special knockout plug in the key. Should a key be lost, a duplicate can be obtained with the number. Owners should record the key number and remove the plug to prevent unauthorized persons from having duplicates made.

■ **Weather-Shielded Locks**—All models feature weather-shielded exterior locks to help prevent water from entering the lock cylinder and freezing. The shield slides aside as the key is inserted and automatically covers the lock opening when the key is removed. In addition, the locks have an internal drain to remove any water that might possibly enter.

LUBRICATION, FULL PRESSURE

Feature of all Chevrolet-built engines. Pressurized oil is routed through passages drilled in the cylinder block (or crankcase of Corvair Turbo-Air 164) and the crankshaft to the engine bearings and the valve lifters. Oil from the lifters is routed through hollow push rods to the valve mechanisms. A continual spray lubricates the timing chain or gears. Lubrication system components include the oil pan, oil pump intake, oil pump, oil filter, oil cooler (in Corvair engines), oil distribution passages, oil level gauge rod, and oil pressure indicator. Although component design differs with the various engines, they are functionally similar.

LUGGAGE CARRIER, ROOFTOP

Dealer-installed accessory for all Corvair models, and either Dealer-installed accessory or factory-optional equipment (RPO V55) for all Chevrolet, Chevelle, and Chevy II Station Wagons. Carrier is constructed of chrome-plated seamless tubular steel rails, raised several inches above the roof by chrome-plated supporting posts (or stanchions) and a platform of stainless steel bars. Rubber mounting pads guard against marking or scratching the roof. Carriers are 4-

L-M-N-O

5-, and 6-stanchion design—see individual Options and Accessories sections for styles available.

LUGGAGE CARRIER COVER

Dealer-installed heavy-gauge vinyl accessory cover for use with Chevrolet, Chevelle, and Chevy II rooftop luggage carriers. Covers are attached to the carriers by straps with snap fasteners and two web belts. A zipper across the right-hand side and the front permits convenient loading from curb side of car.

LUGGAGE COMPARTMENT LIGHT, AUTOMATIC

Standard on Impala Super Sport and all Impala models except Station Wagons. Available as a dealer-installed accessory for all other models except Station Wagons and Corvettes. A shielded bulb actuated by a mercury switch mounts on the underside of the luggage compartment lid. Bulb lights when the lid is raised and goes out automatically when lid is shut. Corvette interior luggage area is illuminated by standard equipment lighting.

M

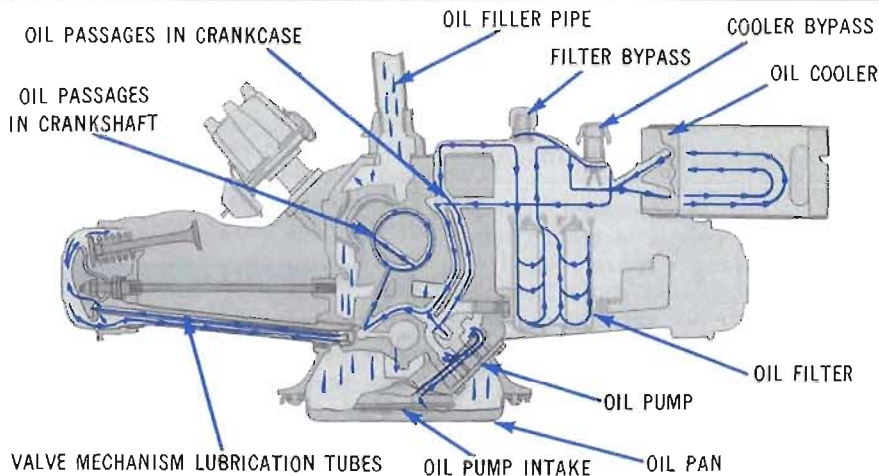
MANIFOLD PRESSURE GAUGE

Part of the special Monza Spyder instrumentation along with the cylinder head temperature gauge, electric tachometer, and special speedometer with trip odometer. The gauge indicates operation of the turbo-supercharger and the amount of boost by registering manifold pressure or vacuum in inches of mercury, and is useful in determining the general operating condition of the engine. The direct-reading dial is calibrated from -30 to +30.

MOLDINGS

Many different types of moldings are used on Chevrolet-built models for both appearance and functional purposes:

- **Belt Moldings**—Stainless steel exterior moldings on the window sills.
- **Body Side Moldings**—Anodized aluminum or stainless steel moldings on the body sides between the belt line and the body rocker panels. Various styles and lengths of side moldings are used to distinguish between series.
- **Body Sill Moldings**—Stainless steel or anodized aluminum rocker panel moldings extending along the lower edge of the body between the wheel openings.
- **Cove Moldings**—Bright metal moldings, usually anodized aluminum, edging or trimming the sculptured body cove areas.

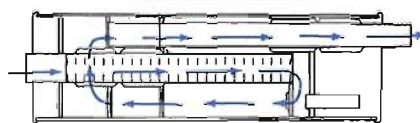


Turbo-Air 145 Engine Lubrication System with Oil Cooler

- **Door Frame Moldings**—Stainless steel moldings accenting the door window frames.
- **Drip Cap Moldings**—Stainless steel moldings covering the drip gutters above the body side windows, plus the tailgate window on Station Wagons.
- **Garnish Moldings**—Bright metal or color-keyed painted interior moldings framing the windshield, side windows, and rear window.
- **Glass-Edge Moldings**—Chromed-plated moldings edging all ventipanes and Chevrolet Sport Sedan, Sport Coupe, and Convertible side windows.
- **Reveal Moldings**—Stainless steel exterior moldings outlining the windshield and rear window glass.
- **Roof Moldings**—Stainless steel moldings edging the roof sides below the drip cap moldings.
- **Wheel Opening Moldings**—Bright metal moldings outlining the lower edge of front and rear wheel openings in the fenders of Chevelle Malibu Super Sport, Custom El Camino, Corvair Spyder and Monza.

MUFFLER, REVERSE-FLOW

Each Chevrolet-built engine has a muffler (or mufflers) designed and constructed for that particular type of engine. Mufflers for all engines are reverse-flow type in which the exhaust gas is reversed and directed through sound-absorbing chambers (see illustration). Resonators are used with



Reverse-Flow Muffler

reverse-flow mufflers on some dual exhaust systems to reduce exhaust sounds to a lower, more pleasant level. For specific muffler details see individual Engine Specifications.

N

NYLON

A versatile synthetic material derived from coal or petroleum, water, and air. The unusual toughness, elasticity, and durability of nylon in filament, sheet, and molded forms makes it particularly suited for many automotive applications. Typical uses include extra-tough nylon cord tires, shock absorber sleeves and piston skirts, special Corvette shock absorber freon gas bags, door lock shoes, brake pedal and clutch linkage bushings, seat upholstery, and other body and chassis areas where the unique properties of nylon contribute to improved appearance, function, and durability.

O

OIL COOLER

Standard on all Corvair Turbo-Air 164 engines to help maintain proper engine oil temperature. The cooler is constructed of aluminum and consists of four U-tubes and a series of corrugated fins. Engine oil flows through the cooler, dissipating heat through the walls of the tubes to the fins. Cooling air from the engine's centrifugal blower is directed downward past the fins to carry off heat radiated by the fins. A special by-pass valve, calibrated to open around 160°F., circulates the oil past the cooler when the engine is cold for quicker warm-up (see illustration).

OIL FILTER, FULL-FLOW

Standard on all Chevrolet-built engines. The full-flow oil filter helps protect vital engine parts by filtering all engine oil before the oil is recirculated back through the system. The filtering element consists of specially treated paper, pleated for compactness with a large filtering area. A spring-loaded by-pass valve allows the oil to circulate past the filter should it become clogged. Either replaceable-element or canister-type (throw-away) filters are used—see Engine Specifications for type used with individual engines.

OIL PRESSURE INDICATORS

Depending on model, the instrument panel oil pressure indicator may be either a gauge or a red warning light. Corvette and Malibu Super Sport models feature an oil pressure gauge; all other models a warning light in the instrument cluster.

■ **Oil Pressure Warning Light**—A red light in the instrument cluster of Chevrolet, Chevelle 300 and Malibu, and Chevy II models labeled OIL indicates engine oil pressure is low. A similar light marked TEMP-PRESS in Corvair models indicates if the engine oil pressure is low and/or if engine oil temperature is too high. Either light glows when the ignition switch is first turned to ON, and may flicker while the engine is idling. If the light remains on during normal driving, the engine should be stopped and the cause determined before resuming operation.

■ **Oil Pressure Gauge**—Indicates the pressure in pounds per square inch circulating oil through the engine's lubrication system. See Engine Specifications for normal oil pressure at specific engine rpm. The gauge should indicate close to the correct pressure reading when the engine is running except at idle when pressure normally drops slightly. Higher pressures may be indicated until an engine thoroughly warms up, but very high pressures after warm-up may indicate plugged oil lines or passages.

OPEN-DOOR WARNING LIGHT

Part of Taxicab Equipment Option (RPO B02). A red lens under the instrument panel (to the left of the steering column) is lighted by the automatic door switches when either rear door is open.

OPTIONS AND ACCESSORIES

Chevrolet offers a wide range of extra-cost equipment, engineered for specific models and built to the high standards of regular equipment.

■ **Regular Production Options** are factory-installed in addition to or in place of standard equipment.

■ **Dealer-Installed Accessories** are furnished and installed by the dealer in addition to or in place of standard equipment.

OVERRUNNING CLUTCH

An overrunning clutch is a mechanical device that operates on the same principle as a bicycle coaster brake. Used as a one-way coupling between two sections of a shaft, it permits one section to drive the other so that both turn together. When a force tends to speed up the driven shaft, the overrunning clutch disconnects the two sections so they may turn at different speeds. Overrunning clutches are used in positive-shift starters and overdrive transmissions.

P

PARKING BRAKE

A direct-acting mechanical linkage type parking brake system, entirely separate from the hydraulic service brake system, applies the rear wheel brakes on all Chevrolet-built models. Brake application is by a foot pedal or hand control depending on model.

■ **Foot-Operated Parking Brake** — Standard in all Chevrolet and Chevelle models. A suspended foot-operated pedal labelled PARK is located close to the left-hand cowl kick panel, and the parking brakes are applied by stepping on the pedal. The brakes are released by a T-shaped handle labelled BRAKE RELEASE located under the instrument panel to the left of the steering column. The safety-release design feature eliminates parking brake pedal kick-back and possible injury.

■ **Hand-Operated Parking Brake**—Corvette and Chevy II parking brakes are set by pulling straight back on the handle to the right of the steering column, and released by turning the handle slightly and pushing inward. On Corvair models, the brakes are operated by pulling a pistol-grip lever near the left cowl kick panel, and released by a trigger built into the handle. When released, the handle automatically returns to the forward position.

PARKING BRAKE WARNING LIGHT

Standard in Impala Super Sport, Impala and Corvette models; dealer-installed accessory in all other models except Greenbrier. A light in the instrument cluster labelled BRAKE flashes red when the ignition switch is turned ON with the parking brakes set, and automatically turns off when the brakes are released.

PARKING LIGHTS

Combination parking and turn signal

lights are standard on all models. Special amber-colored lenses in the front units increase visibility. Lights are turned on by pulling the main light switch out to its first position.

PISTONS

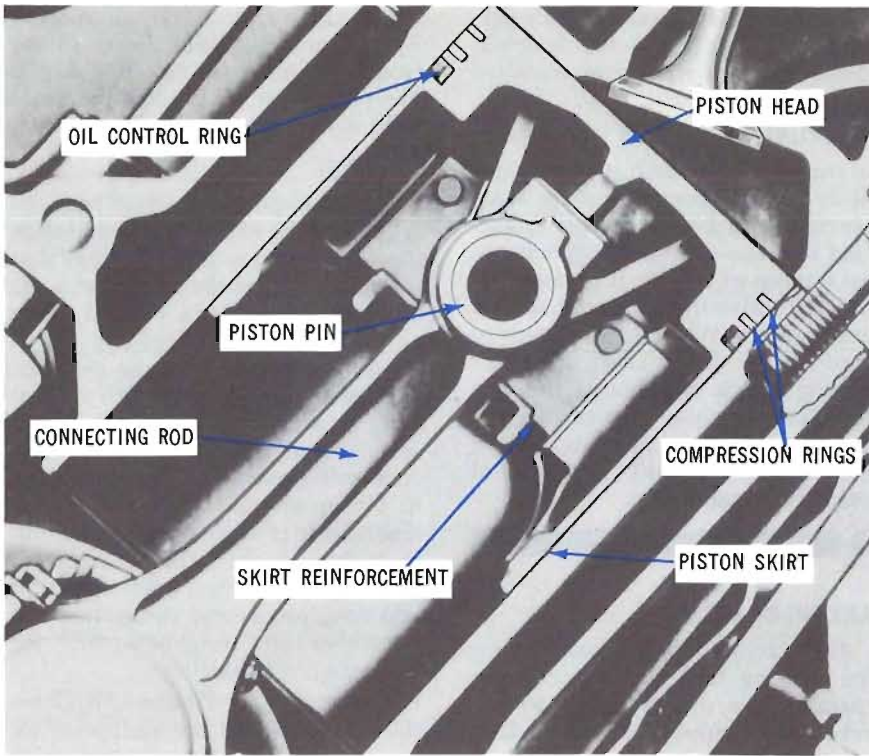
The engine pistons convert heat energy from the expanding combustion gases into the mechanical energy that ultimately drives the rear wheels. As the combustion gases expand, force exerted on the head of the piston moves it downward in the cylinder. Connecting rods transfer this vertical force to the crankshaft, which converts it into rotary motion. Pistons, connecting rods, pins, and rings used in Chevrolet-built engines are precision-built of high-quality materials to withstand the extreme temperatures and pressures of combustion. In addition, piston and connecting rod assemblies are weight-matched for better engine balancing.

■ **Aluminum Alloy Pistons**—All Chevrolet-built engines use aluminum alloy pistons for low weight and quick heat dissipation. Special high-strength impact-extruded aluminum pistons are used in the 375-hp Fuel Injection V8, 365-hp Corvette V8, and 400- and 425-hp 409-cu.-in. V8 engines for greater high-performance durability. Precision-formed cast aluminum alloy pistons are used on all other Chevrolet-built engines. The slipper type skirt (cut away at front and rear to reduce weight) of each piston is ground slightly out of round, and all cast pistons have cast-in steel struts, to control heat expansion and maintain an accurate fit in the cylinders. In addition, the piston skirts are tin-coated to help prevent cylinder wall scuffing.

■ **Connecting Rods** — Precision-forged I-beam section connecting rods are used in all Chevrolet-built engines for high strength and low weight. The rods are pivoted to the pistons by the piston pins, and rigidly bolted at the crankshaft journals with individual bearing caps.

■ **Piston Pins**—The pins attaching the connecting rods to the pistons are made of extra-durable chromium steel and are hollow to reduce weight. Bushings are not required for the pins with aluminum alloy pistons since aluminum is an excellent bearing material. The piston pins on all except the 375-hp and 365-hp Corvette engines and 400-hp and 425-hp 409-cu.-in. V8's are slightly offset from the piston center to prevent piston slap.

■ **Piston Rings**—Two thick-wall cast alloy iron compression rings on each piston to seal the fuel-air mixture in the cylinder above the piston head



Turbo-Fire 283 Piston

and maintain compression. Rings are chromed or wear-resistant coated for longer life — see individual Engine Specifications for compression ring finish. A single three-piece oil control ring (two chrome-plated rails and a stainless steel spacer-expander) below the compression rings on all engines to exclude crankcase oil from the combustion chambers.

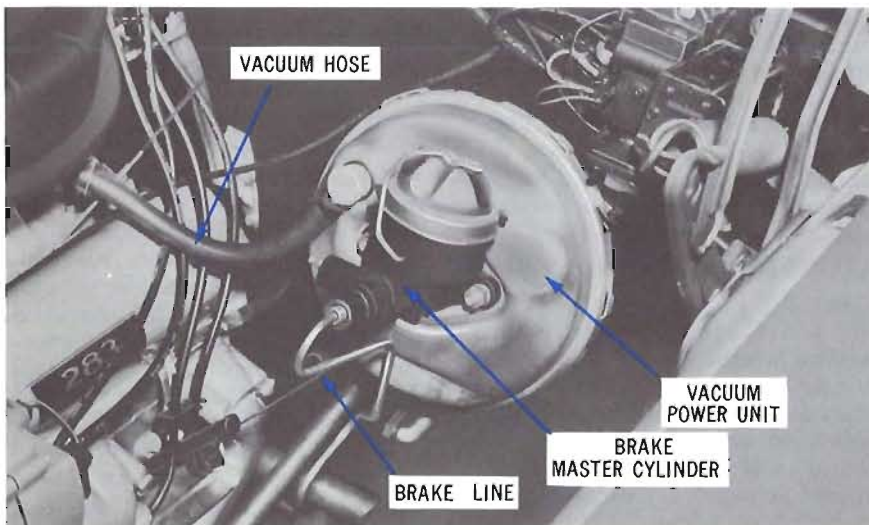
POWER BRAKES

Factory-installed option (RPO J50) for Chevrolet, Chevelle, Chevy II, and Corvette, and dealer-installed accessory for Chevrolet, Chevelle, and Chevy II models. The power brake

system consists of a vacuum power unit between the dash panel and the regular brake system master cylinder (see illustration). Powered by engine vacuum, the unit actuates the master cylinder when the brake pedal is applied and reduces foot pedal braking effort up to one-third. With power brakes, the foot pedal is located closer to the floor and requires less foot movement to apply the brakes.

POWER SEAT

A power-operated variable-position front seat permits a wide range of seating attitudes to suit individual driver requirements for maximum



Optional Chevrolet Power Brake Unit

comfort and convenience. Six-way seat is optional for Chevrolet (RPO A42) except Impala Super Sport and Biscayne models, and four-way seat is optional for Chevelle (RPO A41) except Malibu Super Sport models. Not available on any models equipped with 4-Speed Synchro-Mesh transmission.

■ **Chevrolet Flexomatic 6-Way Power Seat**—The Flexomatic 6-way power seat offers an infinite range of seat positions within the limits of its horizontal and vertical travel. A reversible electric motor capable of moving the seat in six different directions is controlled by one 4-way switch and two 2-way switches (see illustration) conveniently located in the front seat end panel on the driver's side. Up or down movement of the forward 2-way switch causes the seat to raise or lower



Chevrolet Optional 6-Way Power Seat Controls

at the front, tilting about a pivot at the rear. The seat can be raised or lowered throughout a range of 1.75 inches. Operation of the rear 2-way switch causes a similar action, raising or lowering the rear of the seat. The central 4-way switch controls forward and backward seat movement throughout a range of 4.75 inches, and can raise or lower the entire seat without disturbing the established seat tilt angle. The extent to which the center switch may be used to raise or lower the complete seat is equal to 1.75 inches less any travel used to establish seat tilt angle.

■ **Chevelle 4-Way Power Seat**—The 4-way power seat is similar to the 6-way except that it does not include



Chevelle Optional 4-Way Power Seat Controls

the front and rear tilt feature. A single reversible electric motor controlled by a 4-way switch (see illustration) operates the seat through its horizontal and vertical range of travel.

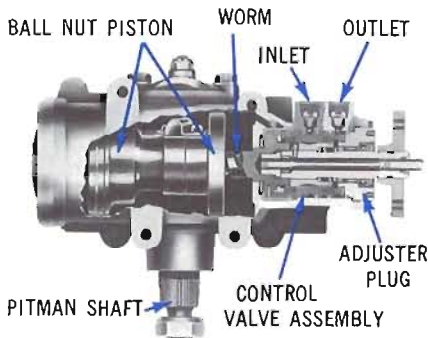
POWER STEERING

Hydraulically operated power-assist units designed to reduce steering effort for easier driving and parking. Optional (RPO N40) for all Chevrolet, Chevelle, Chevy II, and Corvette models. Chevrolet, Chevy II, and Corvette use a linkage-type system with an external power cylinder connected to the steering linkage. Chevelle models use an integral power cylinder and steering gear design. On both types, an engine-driven pump enclosed within a fluid reservoir develops the hydraulic pressure that actuates the power cylinder. Special hydraulic hoses connect the pump to the control valves and return the fluid to the pump reservoir. Though control valve design differs, both systems use 3-position valves for left-turn, neutral, and right-turn fluid flow. In neutral, or straight ahead position, the fluid bypasses the power cylinder and is directed back to the reservoir. See individual Model Specifications for overall steering ratios with power steering.

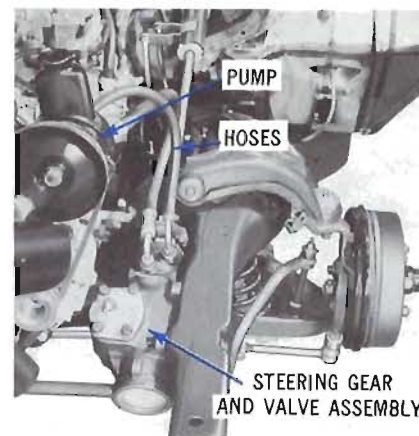
■ **Chevrolet, Chevy II, and Corvette Power Steering** — Hydraulic linkage-type system with the power cylinder acting directly on the steering link-

age (see illustration). The two-way power cylinder is connected to the steering linkage relay rod and the frame, and either pulls or pushes the linkage in the direction the steering wheel is turned. In addition, the power cylinder acts like a double-acting hydraulic shock absorber to cushion road shock and vibration.

■ **Chevelle Power Steering** — An integral system with the power cylinder and rotary control valves built into the steering gear case. In this integral design, the ball nut (see Ball-Race Steering Gear under Steering System) functions as a two-way power cylinder and acts directly on the sector shaft to help turn the wheels. The rotary control valve assembly is located in the upper section of the gear housing, and directs the pressurized fluid from the pump



Chevelle Power Steering Gear Cutaway



Optional Chevelle Power Steering

to the proper side of the ball nut piston for power assistance.

POWER TEAM

A power team is a combination of engine, transmission and rear axle. Chevrolet offers a wide selection of power teams for each model. See Power Teams sections for engine, transmission, and rear axle details.

Q

QUARTER PANELS

Rear body area side structure; i. e., rear fender area.

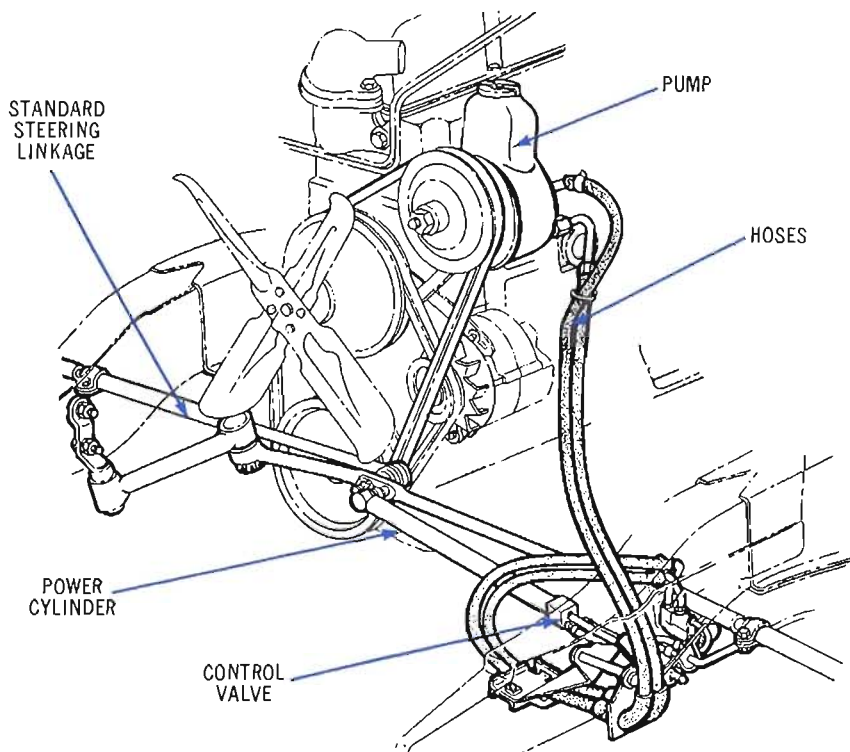
R

RADIATOR

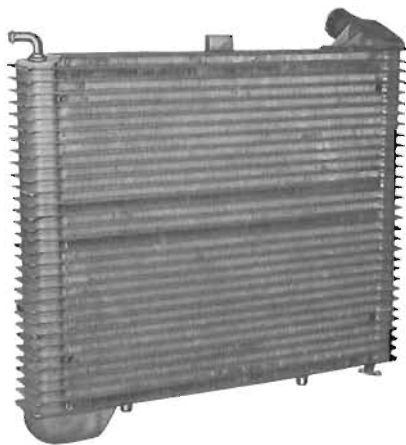
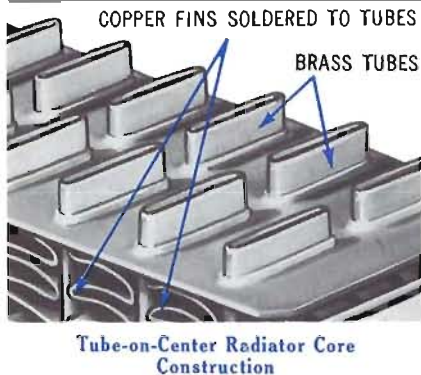
A radiator is a heat exchanging device used on liquid-cooled engines to help maintain proper operating temperature. Though various types of radiator construction are used, all utilize the same basic principle of passing engine coolant through a core of water passages and fins exposed to the cooling air. Air flow through the core is increased by means of the engine fan (see Cooling System). The radiator frontal area and coolant capacity are specifically engineered to individual engine cooling requirements. See Engine Specifications for radiator data.

■ **Copper Tube-On-Center Radiator** — Standard with all Chevrolet, Chevelle, and Chevy II engines. Tube-on-center construction contributes to the high structural strength required with a pressurized cooling system. Coolant flows vertically through the tubes while the cooling air passes between the tubes and the copper fins soldered to them (see illustration).

■ **Corvette Aluminum Cross-Flow Radiator** — A lightweight all-aluminum radiator of drawn-cup type construction designed to meet the higher



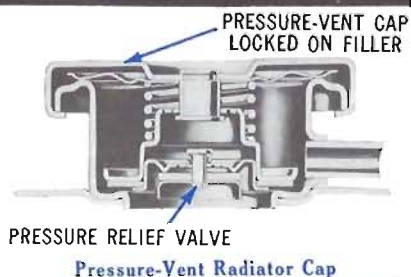
Optional Chevrolet Power Steering



capacity cooling requirements of Corvette engines (see illustration). The engine coolant flows laterally through the core passages instead of vertically as in tube-on-center radiator cores. The Corvette cross-flow radiator also differs from other radiators in that the coolant supply tank is separate from the core.

■ **Heavy-Duty Radiator**—A special tube-on-center radiator with extra cooling capacity optional (RPO V01) for Chevrolet, Chevelle, and Chevy II engines. Included with factory-installed air conditioning systems and some optional engines (see individual Engine Specifications).

■ **Pressure-Vent Radiator Cap**—The radiator cap is designed to relieve pressure in the cooling system greater



than 13 pounds per square inch. Pressure raises the boiling point of the coolant and minimizes evaporation of water and antifreeze. Pressure is limited by a spring-loaded rubber-sealed valve on the cap. When the cap is locked on the filler (by cam action) the valve seals the filler opening. Excessive internal pressures can overcome the spring pressure to unseat the valve until pressure in the system drops to 13 pounds per square inch.

RADIATOR INSECT SCREEN

Dealer-installed accessory for Chevrolet, Chevelle, and Chevy II models. A fine-mesh screen of varnished aluminum-coated steel, suspended in front of the radiator behind the grille, helps prevent clogging of the radiator by insects and debris.

RADIOS

Chevrolet radios are precision-engineered and built of high quality materials, and incorporate many modern electronic developments for exceptional quality and durability: fully transistorized design, high-energy speakers, straight-line tuning, and printed circuits. Fully transistorized circuitry contributes to nearly instantaneous warm-up, longer life, and appreciably less drain on battery power.

■ **AM Pushbutton and Manual Radios**—Factory optional or dealer-installed equipment for all models (pushbutton radio not available on Greenbrier). Although different in details, Chevrolet, Chevelle, Chevy II, and Corvair manual and pushbutton

radios are basically similar (see illustration). The left-hand knob turns the set on and off and controls the volume. A control behind this knob varies the tone from treble (extreme counter-clockwise) to bass (extreme clockwise). The right-hand knob is turned to select radio station frequencies indicated on the illuminated dial facing. A control behind this knob is included with rear seat speaker installations to adjust the balance between the front and rear speakers. Pushbutton radios include manually tuned radio features plus a mechanical tuner with five pushbuttons that can be easily set to pre-selected stations. See Owner's Guide for complete operating instructions.

■ **AM-FM Pushbutton Radio**—Factory-installed optional equipment or dealer-installed accessory for Chevrolet and Corvette models only. The fully transistorized AM-FM radio offers both AM (540-1600 kilocycles) and FM (88-108 megacycles) broadcast bands for more complete radio coverage and virtually static-free FM reception. On the Chevrolet AM-FM radio, the bands are selected by a horizontal switching bar that simultaneously rotates either the FM or AM band scales on the dial. Both the dial and the letters AM and FM at the ends of the switching bar are illuminated for night driving convenience. Corvette AM-FM band selection is accomplished by a vertical sliding bar that reveals or conceals the AM and FM letters and rotates the band scales on the dial. Both the dial

and the letters are illuminated. Stations on either radio may be selected either by pushbutton or manual control. The pushbuttons may be set for AM or FM stations or a combination of either. The FM circuit features a built-in automatic frequency control that locks in FM station signals. Best FM reception is obtained with the antenna extended approximately thirty inches, and since FM reception is similar to television transmission (essentially line-of-sight signal travel) the effective listening distance is approximately twenty-five miles. See Owner's Guide for complete operating instructions.

■ **Radio Antenna**—A corrosion-resistant chrome finish antenna with a hermetically sealed base is included with all radios. The four antenna sections extend about five feet and retract to about one foot. Slide springs maintain contact between the sections to minimize static.

■ **Rear Seat Radio Speaker**—Part of RPO Z02 Pushbutton Radio and Rear Seat Speaker combination, and dealer-installed accessory for all Chevrolet, Chevelle, Chevy II, and Corvair models (except Chevelle, Chevy II, and Corvair Convertibles). A speaker in the rear of the car improves sound distribution throughout the passenger compartment. The speaker control may be turned so the front and rear speakers can play separately or together.

REARVIEW MIRRORS

Adjustable inside rearview mirrors are standard on all models. Outside rearview mirrors are standard on Corvette and available on all other models as part of Comfort and Convenience Equipment groups (RPO Z01 or Z13) or as a separate dealer-installed accessory.

■ **Adjustable Inside Rearview Mirror**—The reinforced glass rearview mirror is suspended at the windshield center on all models. To accommodate tall or short drivers, the mirror may be set at any rearward angle, at either height permitted by the offset mounting. A toggle link in the mirror support permits even greater adjustment flexibility. Mirror hardware is chrome-plated on Impala Super Sport and Impala, Malibu Super Sport and Malibu, Chevy II Nova, Corvair Spyder and Monza, and Corvette models; silver-painted on all other models.

■ **Non-Glare Inside Rearview Mirror**—Dealer-installed accessory for all models and part of Comfort and Convenience Equipment groups (RPO Z01) for Chevrolet, Chevelle, Chevy II, and Corvair models. The non-

glare mirror is a bright metal backed wide-angle prismatic mirror that removes the glare of overtaking car headlights for safer night driving. A tab at the lower edge of the mirror switches the mirror from day to night use. Mirror mounts on the standard bracket in a socket that permits the normal full adjustment.

■ **Adjustable Outside Rearview Mirror**—Standard on Corvette; dealer-installed accessory on all other models; and part of Comfort and Convenience Equipment groups Z01 for all models except Greenbrier. Mirror hardware is chrome-plated for all models except Greenbrier, and a similar mirror with painted hardware is available for Greenbrier (RPO D32). The front surface of the mirror glass is coated, instead of the back surface, to avoid internal reflections. A special remote control mirror adjustable from inside the car is available (all models except Corvette and Greenbrier) as part of Comfort and Convenience Equipment RPO Z13 or as a separate Dealer-installed accessory. See model Options and Accessories sections.

RPM

Abbreviation for Revolutions per Minute.

RPO

Abbreviation for Regular Production Option.

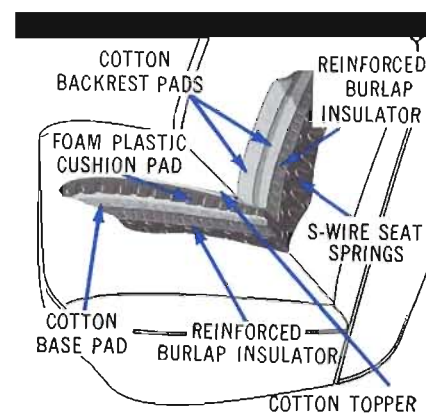
S

SAFETY REFLECTORS

Red plastic prisms are included in the rear light units of all models to reflect the headlights of overtaking cars for safer night driving. In addition, Impala Super Sport and Corvette Sting Ray models feature safety reflectors built in the front door interior trim panels.

SEATS

Seat foundations consist of heavy-gauge S-wire springs (see illustration) shaped to the seat contour and mounted in a steel frame. The S-wire springs hold the seat shape better than furniture-type coil springs, and allow more space under the front seat for air circulation. An insulator of reinforced burlap supports the padding on top of the springs. The backrest padding in most models consists of layers of cotton pads curved over the top of the front seat backrest. Seat cushion padding is composed of layers of cotton and jute or foam of different thicknesses depending on model—see individual model Interior Features and Appointments for details. Heavy-duty seat construction is included with Taxicab Equipment

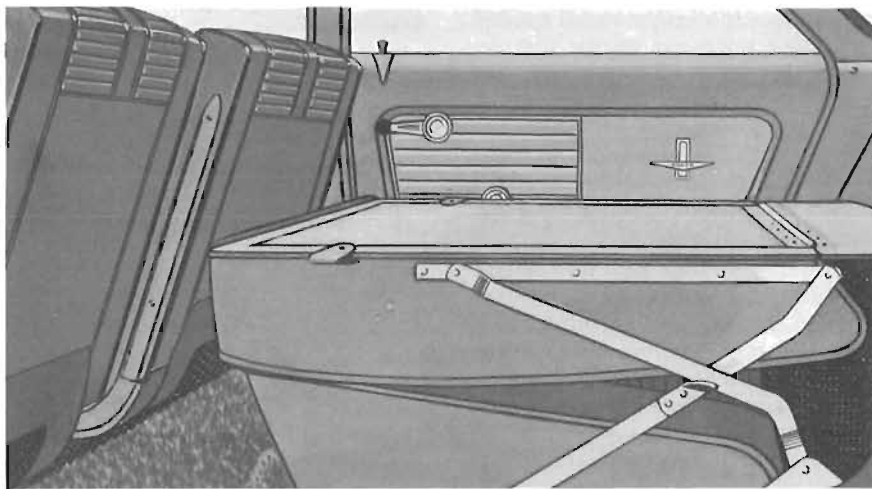


Typical Front Seat Construction

and Police Car Body Equipment options. The specially reinforced heavy-gauge S-wire springs in the heavy-duty seat cushions and backrests, on Sedan front and rear seats and Station Wagon front seats, are more durable and help maintain riding comfort longer.

■ **Seat Adjustment**—For proper driving position, front seats can be manually adjusted over a total horizontal distance of 4.75 inches in Chevrolet and Chevelle models, 4.4 inches in Corvette, and 4.0 inches in Corvair and Chevy II. The adjuster tracks are on an inclined plane so that the seat rises $\frac{1}{2}$ inch and tilts forward more vertically as it moves ahead. Forward movement is assisted by springs at both sides of the seat. An adjuster control unlocks the tracks so the seat can be moved to any of eight positions; when released, it locks the seat in the selected position. The same type of adjustment is used for the passenger's seat in bucket seat models.

■ **Corvair Fold-Down Rear Seat**—Standard in Monza Sedan, and in Spyder and Monza Club Coupe models; optional (RPO A67) in Corvair 500 and 700 models. Full-width fold-down seat converts the rear compartment into a large luggage or cargo compartment. Except for trim details, the seat is the same in all models. The cushion is mounted on the body floor, but the backrest folds (see illustration). The backrest is secured in an upright position by snap catches, and when released, an articulating linkage at the seat sides permits the backrest to be folded forward and down to a level position. A filler panel at the base of the backrest in Sedan models snaps into place to fill the gap between the floor of the inside stowage compartment and the seat. The folded backrest on Club Coupes meets the floor so no filler panel is needed. The back of the backrest and the filler panel are tough panel board, finished to match the stowage com-



Corvair Fold-Down Rear Seat

partment floor.

■ **Greenbrier Removable Second Seat**—Standard in Greenbrier Sports Wagon. Removable, full-width single-unit seat, normally mounted facing forward, accommodates three passengers. The seat consists of an integral cushion and backrest built on a foundation of heavy-gauge S-wire springs mounted in steel frame-work and supported by painted tubular steel legs. The seat can be either removed for greater cargo capacity, moved to an alternate rearward location, or positioned to face either fore or aft without tools by unfastening simple wing-type screws.

■ **Greenbrier Removable Third Seat**—Optional (RPO A59) for Greenbrier Sports Wagon. The third seat allows 9-passenger seating in Greenbrier models, and is identical to the second seat, except that it does not have rear legs and mounts only facing forward.

■ **Station Wagon Second Seat**—Standard in all Station Wagon models. The full-width fold-down second seat serves as a level extension of the cargo floor. The backrest is secured in an

upright position by a positive lift-type safety latch on the right-hand side. When the latch is released, an articulating linkage at the seat sides permits the backrest to be folded forward and down. A two-piece hinged filler panel fills the gap between the seat and the floor when the backrest is down, and folds neatly out of the way when the backrest is raised to the upright position. The back of the backrest and the filler panel are steel with scuff-resistant vinyl coating.

■ **Station Wagon Divided Second Seat**—Optional (RPO A66) for all Station Wagon models. The versatility of a Station Wagon is greatly increased with the optional 1/3-2/3 divided backrest seat instead of the standard



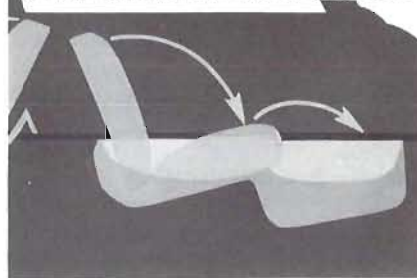
Station Wagon Optional 1/3-2/3 Divided Second Seat

second seat. Designed for situations where partial seating and a full length of cargo floor are required, the seat has a backrest that is divided into one-third (right side on Chevrolet and Chevelle, left on Chevy II) and two-thirds sections with each section folding independently of the other.

■ **Station Wagon Rear-Facing Third Seat**—Standard in all 3-seat Station Wagons. The rear-facing third seat offers comfortable room and unexcelled rearward visibility with separate cushion and backrest units. The

SEAT FOLDING OPERATIONS:

1. SWING CUSHION UPSIDE DOWN
2. RELEASE BACKREST SAFETY LATCHES
3. FOLD BACKREST REARWARD AND DOWN



Chevrolet Station Wagon Rear-Facing Third Seat

back of the backrest and the bottom of the cushion are steel panels finished with the same scuff-resistant vinyl coating as the cargo floor. Comfortable padding includes a thick foam plastic pad in the cushion. Cushion padding and the integral burlap insulator are mounted on straight wire springs in the steel bottom panel of the cushion. Both units are supported on quick-release pin-type hinges that permit the units to be folded individually into the floor, and also allow complete removal of both units. The cushion is rotated upside down to form the rear of the cargo floor. A positive over-center safety latch secures the backrest in an upright position. When the latch is released, the backrest can be pulled rearward and down to complete the floor cargo compartment.

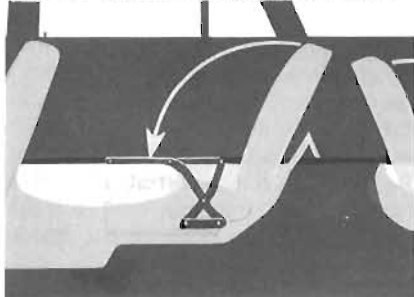
SEAT BELTS

Standard in Corvette, optional for front seats of all other models, dealer-installed accessory for the front and rear seats of all models except Greenbrier (front seat only on Greenbrier). The individually adjustable belts are 2" woven nylon with a quick-release buckle. Special reinforcement points are built into the front floor structure for quick installation without requiring special tools.

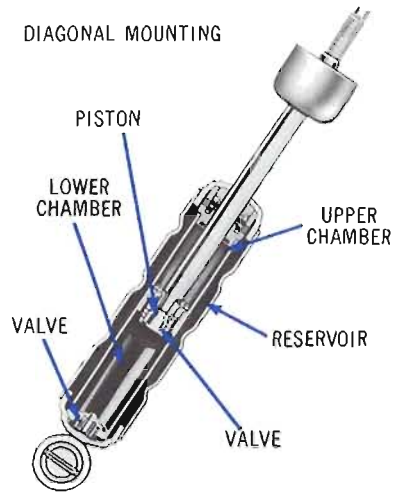
SHOCK ABSORBERS

Direct-acting shock absorbers at all four wheels function with suspension movement to control up-and-down spring action. Each shock absorber consists of a piston, a cylinder (which is divided by the piston into upper and lower chambers), a reservoir, and two precision-built valves (see illustration). One valve is in the piston, the other leads to the reservoir. Nylon piston skirts help minimize scuffing of the cylinder walls. Shock control is accomplished through the displacement of an oil-like fluid by piston movement in the cylinder. As the suspension spring is compressed, fluid is forced out of the lower cham-

BACKREST FOLDING OPERATIONS:
1. RELEASE BACKREST SAFETY LATCH
2. FOLD BACKREST FORWARD AND DOWN



Chevrolet Station Wagon Fold-Down Second Seat



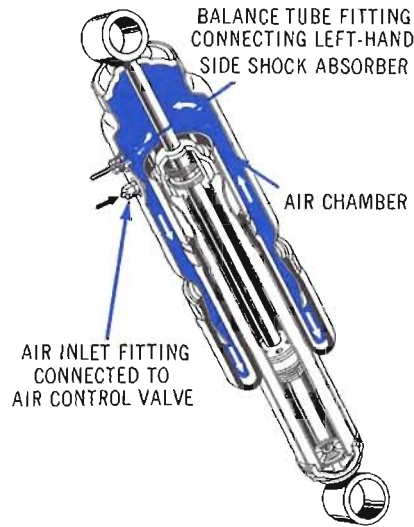
Typical Shock Absorber

ber into both the upper chamber and the reservoir. On rebound, the fluid in the upper chamber passes through the valve into the lower chamber.

- **Corvette Shock Absorbers** include a freon gas-filled nylon bag in the fluid reservoir. When the unit is extended, the freon expands, preventing the creation of a vacuum in the reservoir and possible aeration of the fluid that could reduce shock absorber effectiveness. See Chassis Specifications sections for additional details.

- **Heavy-Duty Shock Absorbers** are optional as part of Heavy-Duty Chassis Equipment (RPO Z04), Taxicab Equipment (RPO B02), and Special Suspension Equipment (RPO F40). Heavy-duty shock absorbers are calibrated to match the heavy-duty springs, and contribute to a controlled, stabilized, comfortable ride.

- **Superlift Shock Absorbers** — Standard on El Camino models, optional (RPO G66) for Chevrolet and other Chevelle models. Air-adjustable Superlift rear shock absorbers contribute to better ride control and more comfortable driving by helping keep the car level under varying load conditions up to 500 pounds beyond normal capacity: extra-heavy luggage compartment loads, trailer pulling, etc. An air control valve in the luggage compartment, Station Wagon cargo compartment, or near spare tire in El Camino cab, permits adjusting the level upward using a regular service station air hose similar to inflating a tire. To exhaust the air, and return the car to normal height and level, the air valve is pushed in similar to deflating a tire. A balance tube between the shock



Superlift Shock Absorber

absorbers equalizes air pressure.

SHOULDER ROOM

Shoulder room is a measurement, in inches, across the car interior at window sill height ahead of the seat backrest. Front seat shoulder room is measured with the seat in the rear-most position. See Model Specifications for shoulder room dimensions.

SPEED AND CRUISE CONTROL

Dealer-installed accessory for all Chevrolet engines except 409-cu.-in. V8's. An automatic system warning the driver of exceeding pre-set speed limits combined with a throttle lock control to relieve foot pressure on the accelerator. Road speeds are selected by a dial on the instrument panel (see illustration) calibrated from 30



Accessory Speed and Cruise Control

to 80 mph in 5-mph increments. The speed warning section of the unit is set by turning the control knob until a slight back pressure is felt on the accelerator pedal while driving at the desired speed. When this desired speed is exceeded, the driver is warned by the back pressure on the pedal. Accelerating through the back

pressure permits normal passing. The throttle holding section is useful for turnpike or expressway driving where conditions permit sustained cruising speeds. Cruise control is set by adjusting the dial to the desired speed, accelerating to the point where accelerator back pressure is felt, and pushing the cruise button. The control automatically operates the throttle to compensate for normal upgrade and downgrade driving. Touching the brake pedal disengages the throttle holder and returns normal accelerator control. The speed warning back pressure will remain at the original setting, but to re-lock the throttle, the driver must again set the cruise control button.

SPOTLIGHT, PORTABLE

Dealer-installed accessory for all models. A convenient, powerful sealed-beam spotlight with a pistol-grip handle and 12-foot cord that plugs into the cigarette lighter socket. A built-in pull-out hook permits suspending the light and an adjustable rest allows the light to be propped up when needed.

SPOTLIGHT, REMOTE CONTROL

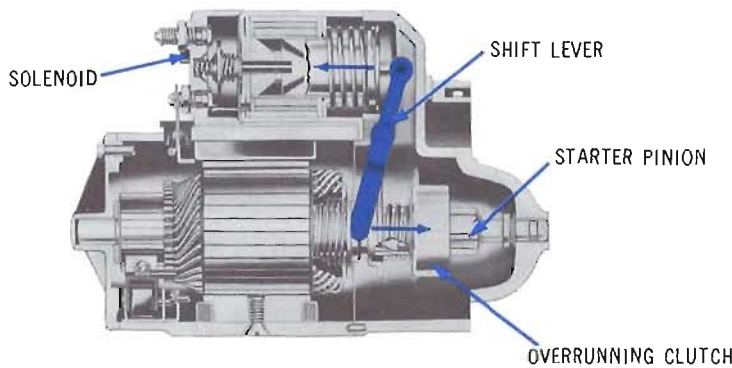
Dealer-installed accessory for Chevrolet, Chevelle, and Greenbrier Sports Wagon models. Sealed-beam Safety-light casts a beam up to one thousand feet with full control of adjustment from inside the car. The control switch is in the pistol-grip handle within easy reach of the driver. While light normally mounts on left side of car, a special bracket is available for right-hand installation.

STABILIZER BAR, FRONT

Standard in all Chevrolet models except Bel Air and Biscayne 6-cylinder Sedans, all Chevelle models, Chevy II Station Wagon and V8 models, Corvette, and all Corvair models except Greenbrier. Optional as part of Heavy-Duty Chassis Equipment option (RPO Z04) in 6-cylinder Biscayne 2-Door and 4-Door Sedans. The stabilizer bar is a spring steel torsion bar mounted in rubber bushings to the frame and linking both lower control arms. The stabilizer bar resists the vertical movement of one spring with a twisting motion that transmits part of the force to the opposite spring for improved ride stability.

STARTER, POSITIVE-SHIFT

Standard in all models. For quick, sure starting under all conditions, the positive-shift type starter pinion stays engaged with the flywheel ring gear until the ignition key is released. False starts and kickbacks are eliminated for less drain on battery power. When the ignition switch is turned to



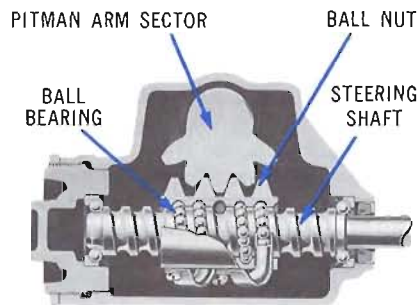
Positive-Shift Starter

START, the starter solenoid moves a lever to shift the pinion into engagement with the flywheel ring gear, and stays engaged as long as the switch is in START. An overrunning clutch on the pinion protects the starter when the engine begins firing. The solenoid and shift mechanism are enclosed to keep out dirt.

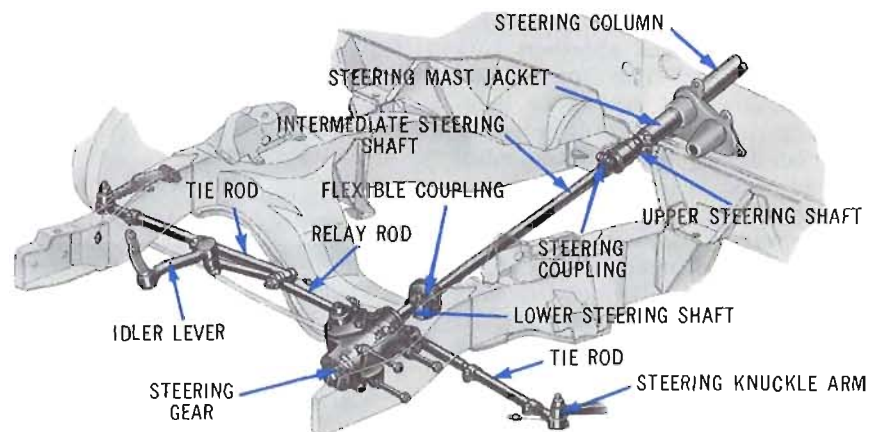
STEERING SYSTEM

All models feature concentric steering columns enclosing turn signal mechanisms and transmission controls (on models with steering-column mounted control) for improved appearance, balanced relay-type linkage designs for easier, more precise steering control, and low-friction Ball-Race steering gear. Steering linkage pivoting points are designed for minimum maintenance . . . see Owner's Guides for recommended servicing intervals and requirements. For standard and power steering ratios and other details, see Chassis Specifications Sections.

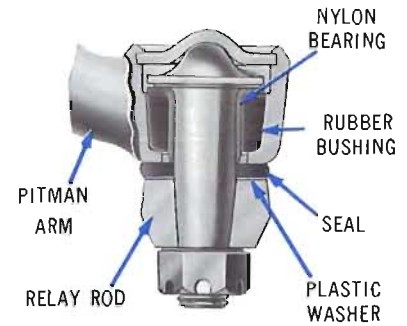
■ **Ball-Race Steering Gear** — Low-friction Ball-Race steering gear is standard in all models. Anti-friction ball bearings in the steering gear (see illustration) contribute to easier steering. The ball bearings roll in a closed circuit to move the ball nut up or down on the steering shaft as the steering wheel is turned. Teeth on the ball nut engage teeth on the



Ball-Race Steering Gear



Chevrolet Balanced Steering Linkage

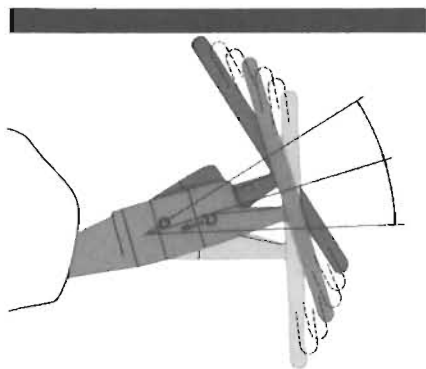


Chevrolet Steering Pitman Arm Ball Joint

pitman arm sector which turns the pitman arm and moves the steering linkage left or right.

■ **Corvette Adjustable Steering Shaft** — Feature of Corvette models. Steering wheel position may be adjusted to suit individual driver comfort requirements by movement of wheel forward or rearward within a 3-inch range by special adjustment on the steering column.

■ **Cushioned Steering Shaft** — Standard in all Chevrolet, Chevelle, and Corvette models. Cushioned steering shaft contributes to driving comfort by minimizing road shock and vibration transmission to the steering wheel. The Chevrolet shaft is in two sections, one coupled to the steering gear and one connected to the steering wheel. Two joints connect the sections and permit the steering wheel to be positioned at a comfortable angle. Chevelle and Corvette have a one-piece shaft with a single joint. Rubber and fabric cushioning in the joints helps reduce road shock not eliminated in the balanced steering linkage.



Chevrolet Optional Comfortilt Steering Wheel

■ **Comfortilt Steering Wheel**—Optional (RPO N33) for most Chevrolet and Chevelle models. See Options and Accessories Sections for model availability, restrictions, or required additional equipment. The Comfortilt Steering Wheel features a pivoted steering column that can be adjusted vertically to any of seven different angular positions (see illustration). A small chrome-plated lever on the side of the steering column controls the selection of position—for entry or exit, the steering wheel pops up out of the way when this lever is moved toward the wheel. For adjustment to individual driving preference, the lever is raised, steering wheel moved up or down to the desired angle, and lever released to lock wheel in selected position.

■ **Sports-Styled Steering Wheel** — Special dual-spoked, walnut-grained plastic rim steering wheel with horn button (similar to Corvette steering wheel). Optional (RPO N34) for all Chevrolet, Chevelle, and Corvair models except Greenbrier.

STEPS, THIRD SEAT

Standard in Chevrolet 9-Passenger Station Wagons. Access to the third seat compartment is facilitated by a large step at each side of the tailgate. Each step consists of chrome-plated steel support, mounted on top of rear bumper, and surfaced with a ribbed rubber pad.

STOWAGE COMPARTMENT, CONCEALED

A completely concealed compartment in all Chevrolet Station Wagons for stowage of valuable articles. The large steel well below the cargo floor level just inside the tailgate opening serves as a foot well for the third seat in 9-Passenger Station Wagons, and also provides a large space below the seat cushion for stowage. When the seat is folded down, the foot well area may be used for stowage. In 6-Passenger Station Wagons, the entire well, covered by a removable section of



Concealed Stowage Compartment of Chevrolet Station Wagon

floor, affords 10½ cubic feet of hidden stowage space and, when the cover is removed, offers additional compartment height for tall cargo.

STOWAGE COMPARTMENT LOCK

Dealer-installed accessory or factory-installed option (RPO A96) for all Chevrolet Station Wagons. Key lock helps secure valuable articles stowed in the concealed compartments.

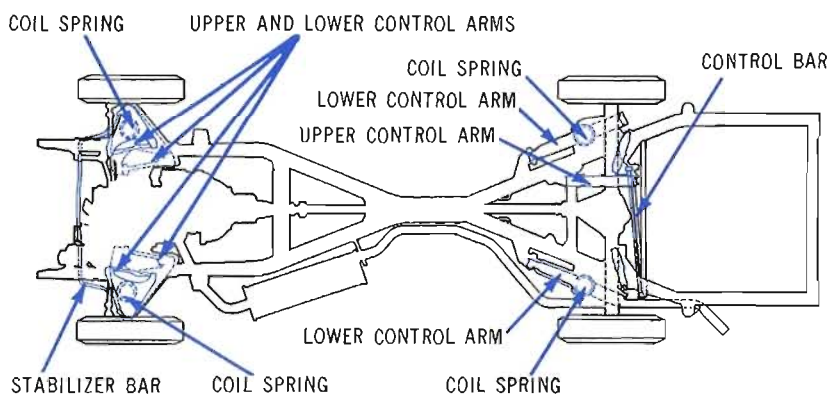
SUSPENSION SYSTEMS

Function to control wheel movement and suspend body and chassis components isolating them from road shock and vibration. All suspension systems used on Chevrolet-built cars, though similar in many respects, are engineered specifically to meet individual ride and handling requirements. Front suspensions are designed for minimum maintenance—rear suspensions do not require periodic servicing. See Owner's Guides for recommended front suspension servicing intervals and requirements. Special heavy-duty suspension equipment is available on most models (Special Suspension, RPO F40) and is included with Taxicab Equipment (RPO B02), Heavy-Duty Chassis Equipment (RPO Z04), and Corvette Special Performance Equip-

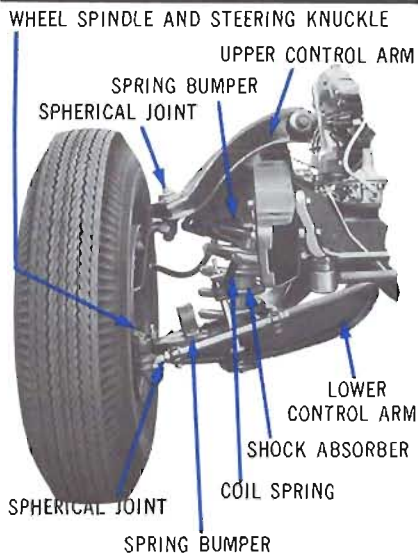
ment (RPO Z06). See Options and Accessories Sections for availability, restrictions, or possible required additional equipment.

■ **Chevrolet and Chevelle Full Coil Suspension**—Full Coil suspension systems of Chevrolet and Chevelle models are essentially similar except for design variances required to achieve ride and handling characteristics consistent with differences in size and weight. With Full Coil suspension, a coil spring at each wheel serves only to cushion the ride. Lateral and longitudinal forces imposed by braking, acceleration, and cornering are absorbed by the suspension control members. Springs are chrome alloy steel with deflection rates tailored to different models for maximum riding comfort.

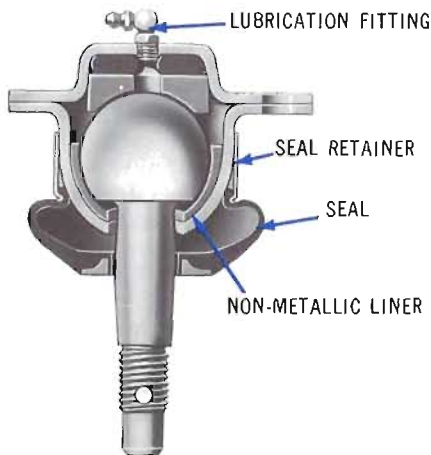
Front Suspension: Independent suspension system for each front wheel combines long and short control arms with low-friction non-metallic spherical joints and coil springs (see illustrations). Each wheel can move up and down independently of the opposite wheel, and can roll over road irregularities with minimum disturbance to level ride. Each control arm is hinged to chassis frame on two preloaded rubber-insulated pivots



Chevrolet Full Coil Suspension System



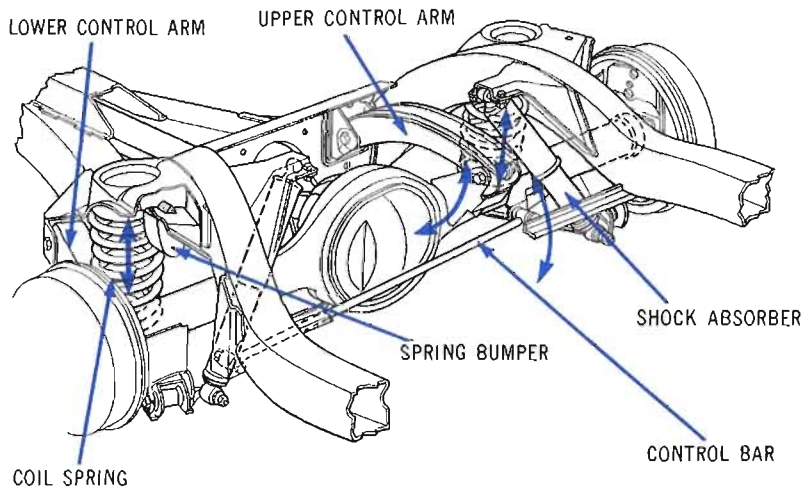
Chevrolet Independent Front Suspension



Chevrolet Upper Control Arm Spherical Joint

and connected to combined wheel spindle and steering knuckle by spherical joints. Stabilizer bar on all Chevells models, and on all Chevrolets except 6-cylinder Bel Air and Biscayne Sedans (see Stabilizer Bar), links lower control arms to stabilize ride. The stabilizer bar resists the vertical movement of one spring with a twisting motion that transmits part of the force to the opposite spring. Double-acting shock absorbers are diagonally mounted inside springs to offer increased resistance to car sway and roll. Rubber bumpers on top of lower control arms and chassis frame front crossmember cushion jolts by snubbing excessive up-and-down movement of each wheel.

Rear Suspension: 4-link rear suspension components include two coil springs and four links (see illustrations). Two lower control arms, an upper control arm, and a control bar are used on Chevrolet; two lower control arms and two diagonally

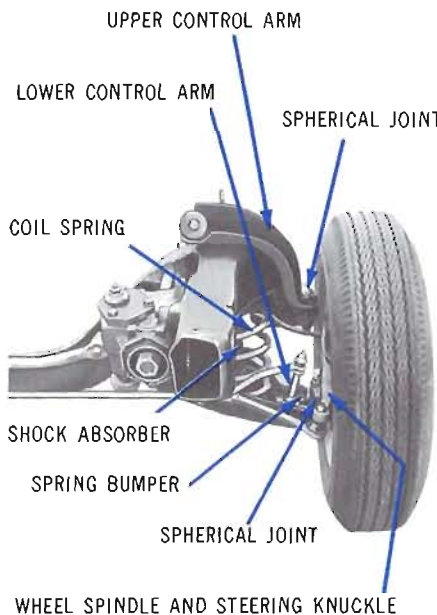


Chevrolet 4-Link Rear Suspension

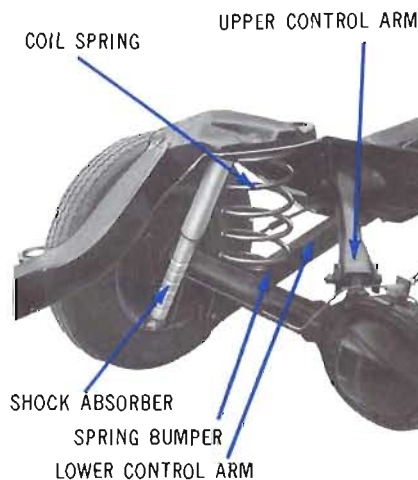
mounted upper control arms on Chevells. The control arms are pivotally mounted between the axle and frame. The lower arms transmit wheel movement to the springs, while the upper members control axle torque reaction. Both the upper and lower arms transmit acceleration and braking forces to the frame. Lateral axle movement is controlled by the transverse control bar between the axle housing and frame on Chevrolet, while the diagonal upper arms serve a similar function on Chevells. In addition, diagonally mounted shock absorbers resist roll and sway. Rubber bumpers help cushion severe jolts

by snubbing excessive upward wheel movement.

■ **Chevy II Suspension** — Coil spring spherical joint front suspension basically similar to other Chevrolets, and rear suspension with unique rubber-cushioned Mono-Plate single-leaf rear springs. Mono-Plate springs are uniformly stressed over their entire length for more efficient cushioning. Heavy rubber bushings and insulating pads in both front and rear suspensions isolate components from direct metal-to-metal contact and contribute to a smooth, quiet, well-controlled ride.



Chevells Independent Front Suspension



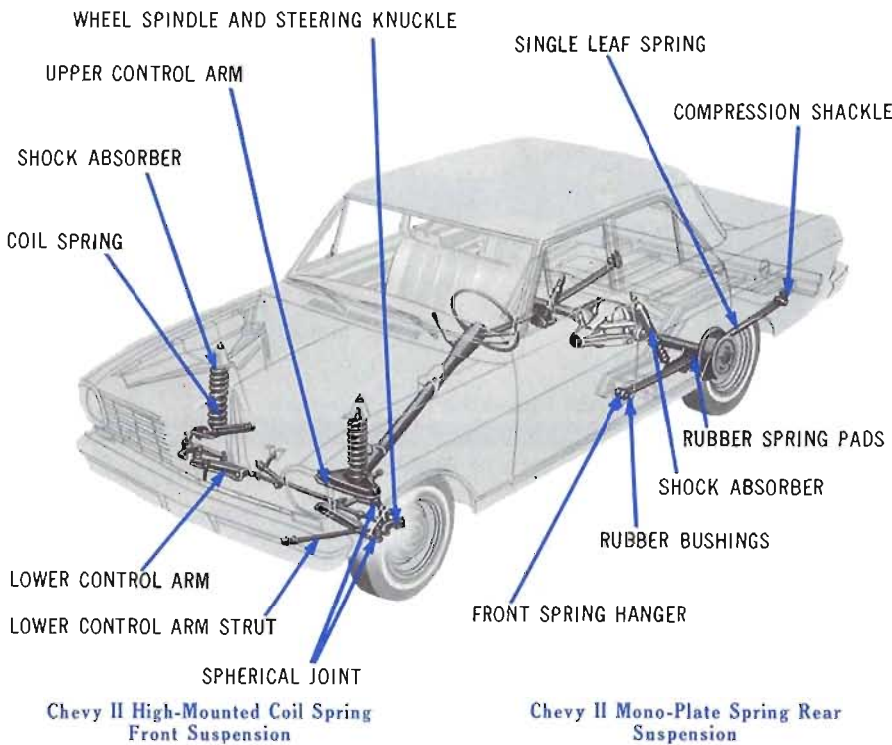
Chevells 4-Link Rear Suspension

■ Corvair Quadri-Flex Suspension —

Quadri-Flex independent suspension is designed to give Corvair riding qualities comparable to many large luxury cars. Each wheel is suspended by a deep coil spring with shock absorber mounted inside to cushion out road shock independent of action of other wheels. Quadri-Flex suspension also permits more of car's weight to be supported by coil springs. Built-in leveling action helps keep Corvair on an even keel during quick stops and under hard acceleration.

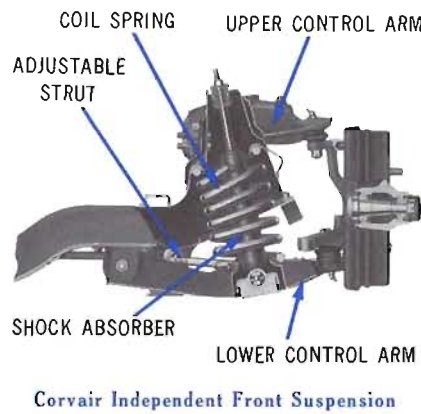
Front Suspension: Independent suspension system for each front wheel combines long and short control arms with spherical joints and coil springs. A ride-leveling front stabilizer bar connects the lower control arms on all models except Greenbrier. Springs are mounted at a slight angle to prevent distortion while flexing. And to help isolate the body from road noise, the spring tops are seated against rubber shims. Each wheel is pivoted to turn with ease and to move up and down independently of opposite wheel. Wishbone-shaped short (upper) arm and long (lower) arm of heavy-gauge pressed steel are hinged to the suspension crossmember on pre-loaded rubber-insulated pivots and connected to the combined wheel spindle and steering knuckle by low-friction spherical joints. A strut rod (except Greenbrier), solidly bolted to lower control arm near its outer end, angles to rear and inward to projection of crossmember to which it is mounted with two rubber bushings. Inner end of strut is threaded so that front suspension caster angle may be readily adjusted by varying effective length of strut. All components of front suspension are assembled as a unit with crossmember. This unitized front suspension permits wheel alignment to be accomplished under closely controlled conditions in manufacture—before unit is installed in car.

Rear Suspension: Corvair swing axle rear suspension employs universal joints at the inner ends of the axle shafts to permit independent movement of each rear wheel. Coil springs with internally mounted shock absorbers are mounted in pockets in the box-girder crossmember and in the control arms. A single-leaf transverse spring, in addition, is used on all models except Greenbrier, and is attached at each end to the suspension lower control arms by rubber-bushed link bolts. Semi-trailing, wishbone-shaped box-girder control arms of heavy-gauge pressed steel are pivoted on preloaded rubber-insulated pivots and are rigidly at-

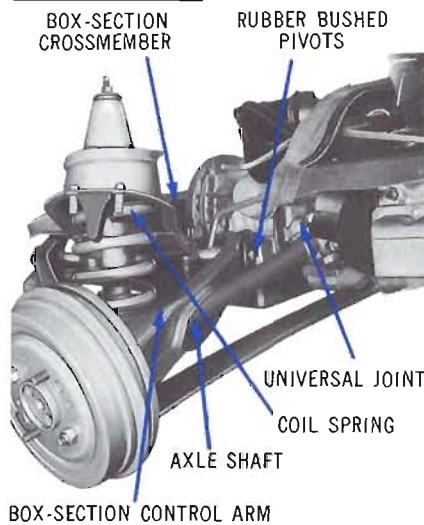


Front Suspension: High-mounted independent coil spring spherical joint suspension system with stamped long and short control arms. The control arms are attached to the front end structure through rubber-bushed pin joints, and to the wheel hubs through low-friction spherical joints. Chrome alloy steel coil springs and double-acting hydraulic shock absorbers are concentrically mounted between the upper control arms and the spring towers formed in the front end structure. Rubber-bushed spring seats rotate with upper arm movement for improved spring stability and ride control. An adjustable tension strut connects the lower control arm to a brace on the body frame.

Rear Suspension: Hotchkiss type with Mono-Plate single-leaf spring at each wheel. Springs are made of special chrome carbon steel formed in an almost continuously variable thickness and width over their full length. Upper surface is shot-peened under tension to develop unusually high strength. Springs are isolated from metal-to-metal contact by heavy rubber cushioning at all attaching points. Front spring eye is rubber-bushed, center is attached to axle by T-bolts and plates with heavy rubber pads isolating the spring surfaces, and rear of spring is attached to a rubber-bushed shackle. Direct double-acting hydraulic shock absorbers are mounted diagonally from the spring plate to the underbody for more resistance to roll and sway.



Corvair Independent Front Suspension



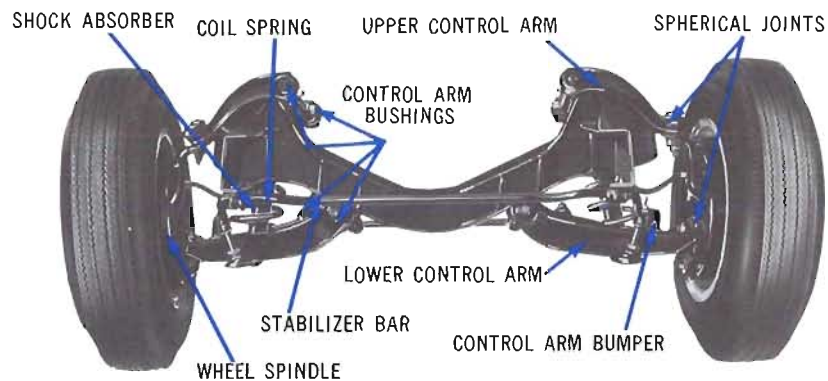
Corvair Independent Swing-Axle Rear Suspension

tached to brake backing plates. The semi-trailing position of the control arms reduces angular deviations between the arms and the axle shafts to a minimum. Rubber cushions at the bolts attaching the crossmember to the body-frame structure help isolate road sounds from the passenger compartment. Rubber bumpers mounted at the crossmember ends prevent excessive spring travel and act as snubbers when wheels contact unusually severe bumps.

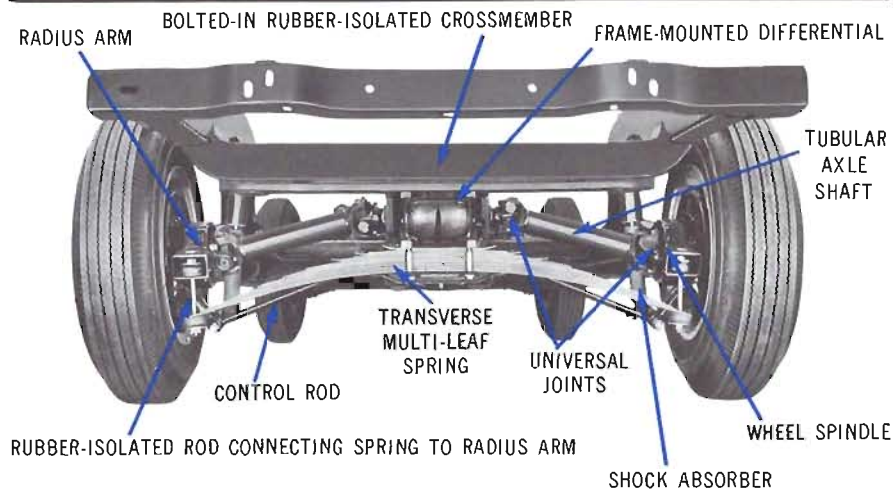
■ **Corvette 4-Wheel Independent Suspension**—Extraordinary stability with exceptional ride is provided in Corvette by a combination of independent coil spring front suspension and 3-link independent rear suspension.

Front Suspension: Corvette front wheels are independently sprung by the short and long arm method which allows each wheel to move up or down independently. For greater cornering stability, the alloy steel coil springs are stiffer than those of regular passenger cars. Shock absorbers mounted inside coil springs include freon gas-filled nylon bags to help prevent aeration of the fluid that might affect shock absorber action. A stabilizer bar is used in connection with the suspension to increase stability and help control of body roll. The stabilizer bar, connecting the lower control arms, is supported by rubber-bushed brackets held in place by bolts which extend through the brackets and into frame. The entire suspension assembly is attached to an unusually rugged frame crossmember which is rigidly welded to the chassis frame side members.

Rear Suspension: 3-link independent rear suspension with fixed differential, double universal jointed tubular axles, transverse multi-leaf spring and aeration-preventing freon-bag shock absorbers. Longitudinal radius arms connected to the wheel spindle supports and the frame through rubber-isolated trunnions restrict fore and aft wheel movement. Lateral control rods from the wheel spindles to the differential and tubular axles function as unequal-length upper and lower control arms restricting camber so that wheel movement is nearly vertical under all driving conditions. The fixed differential carrier is mounted to the frame by a rubber-isolated crossmember. A nine-element transverse leaf spring with hardened and tempered chrome carbon steel leaves bolts solidly to the differential carrier and attaches to the radius arms with rubber-isolated floating rods. Suspension design permits the spring to function as a springing member only. Lateral



Corvette Independent Front Suspension



Corvette 3-Link Rear Suspension

and longitudinal forces imposed by braking, acceleration, and cornering are absorbed by the fixed differential and suspension control arms.

TACHOMETER

■ **Corvette Cable Drive Tachometer** — Standard in Corvette models in the instrument cluster directly in front of driver. Accurately indicates engine speeds in revolutions per minute up to 7000 rpm. Positive mechanical drive from distributor base through conduit-shielded flexible cable. Round dial and pointer are styled to match other instruments.

■ **Electric Tachometer**—Part of Monza Spyder instrumentation, optional for all V8 models (RPO U16), and included in the 4-speed transmission option on Chevrolets with 300-hp and all 409-cu.-in. V8 engines. Installation consists of tachometer head and separate sending unit. RPM dial mounts on instrument panel in a separate housing for Chevrolet unit, integrated with instrument cluster on Chevelle.



Corvette Tachometer

TAILGATE, COUNTERBALANCED

Standard in all Station Wagons. Double-walled tailgate with retractable window opens level on two strap-type hinges and is held open by two chrome-plated folding-link supports. Two rotary safety latches at the sides lock the gate automatically. A central handle inside releases both latches simultaneously, permitting one-hand opening. Torsion bar counterbalance helps reduce the effort required to lower or raise the gate. A key lock in the rear window control is operated by the car key.

TEMPERATURE INDICATORS

■ **Temperature Gauge** — Standard in Corvette and Chevelle Super Sport models. Electric gauge has C (cold) and H (hot) markings to indicate coolant temperature. When ignition switch is turned off and engine cools, pointer may “float” anywhere between C and H positions.

■ **Temperature Gauge, Cylinder Head** — Feature of Monza Spyder instrument panel. With turbo-supercharged Spyder engine, cylinder head temperature can become excessive with sustained high-output operation in extremely hot weather. Gauge, plus red light on instrument panel and warning buzzer, indicates when temperatures have exceeded normal operating level.

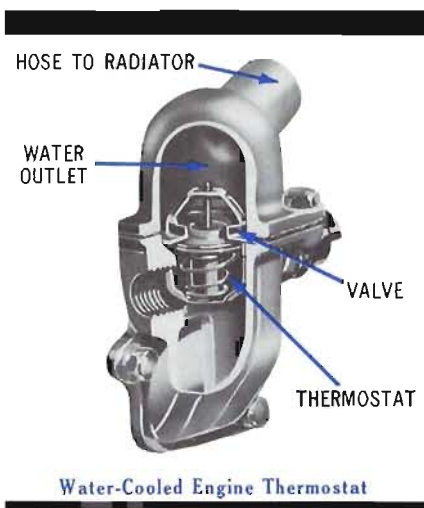
■ **Temperature Warning Lights** — Standard in Chevrolet, Chevelle, Corvair and Chevy II models. Light in Corvair instrument cluster is labeled TEMP-PRESS. If temperature of air-cooled engine is excessive or if engine oil pressure is low, light glows a red warning to driver. The light for Chevelle and Chevy II models is labeled TEMP and comes on when coolant temperature is excessive. Chevrolet models have a green and red light system. Green light is lit when engine is cold and stays on until it is warmed up. Red TEMP light comes on only if engine overheats. Red light also lights while ignition switch is turned to ON, to show it is functioning properly.

THERMOSTAT

Controls engine operating temperature by regulating coolant flow (water or air depending on engine) for quicker warm-up, economical operation, and longer engine life. See also COOLING SYSTEM.

■ **Bellows-Type** — In Corvair air-cooled engines, two bellows-type thermostats operate air exhaust doors that restrict air flow from plenum chambers at sides of engine until engine warms up.

■ **Pellet-Type** — Standard in all liquid-cooled engines. Pellet-type thermostat in the water outlet speeds warm-up by regulating cooling to engine operating requirements. Unaffected by pressure in cooling system, it provides quick engine warm-up by operating an integral valve that restricts coolant circulation until the engine is at its most efficient operating temperature. During warm-up, a small passage directs some coolant around the thermostatically operated valve to permit limited coolant circulation within the engine before the thermostat valve opens. The temperature-sensi-



Water-Cooled Engine Thermostat

tive element is a small cylinder, or pellet, filled with a plastic which has a melting point of 180 degrees. A stem projects into the pellet. When the plastic melts, it expands, squeezing the stem outward from the thermostat, and the stem movement operates the valve. In resolidifying, the plastic contracts, drawing the stem back into the thermostat. A rubber diaphragm seals the end of the pellet, preventing loss of melted plastic.

TIRES

Standard equipment Chevrolet tires feature blowout-resistant tubeless design, strong rayon cord foundation and energy-absorbing tire tread material. As a result, tires are safer, quieter, softer, more durable and provide greater traction than tires without these features.

■ **Tire Construction** — In tubeless design, an integral lining of butyl rubber seals around sharp objects that might puncture the tire, retarding deflation. The high energy-absorbing quality of the tread material improves ride with less impact transmitted to the passenger compartment. In addition, tire squeal during cornering or braking is substantially reduced. All except Corvette use a 2-ply rayon cord tire rated equivalent to 4-ply tires, but particularly suited for general passenger car use because of softer riding quality, lower operating temperatures, and improved traction. The foundation of the 2-ply tire is formed of two thicknesses of high strength rayon cord instead of four. While the same basic material is used in 4-ply tire construction, the 2-ply's individual cords have a much higher denier rating and are equal to 4-ply construction in tensile strength.

■ **Tire Inflation** — Recommended tire inflation pressures, in pounds per square inch with tires cold, are as

follows (normal operating pressures usually average about four pounds per square inch more):

	Front	Rear
Chevrolet		
Station Wagons	24	28
Other Models	24	24
Chevelle		
Station Wagons	24	28
Other Models	24	24
Chevy II		
Station Wagons	24	28
Sedans with 6.50 x 14 Tires	22	22
Other Models	24	24
Corvair		
Greenbrier	24	24
Other Corvair	15	26
Corvette (normal)	24	24
(Sustained high speed)	36	36

■ **Tire, Spare** — Standard in all models. Spare tire and wheel assembly is stowed out of way yet readily accessible when needed. Stowage location differs in various models . . . see Body Features Sections for illustrations and details.

■ **Special Purpose Tires** — Special purpose tires (higher ply ratings, larger sizes, or nylon cord construction) provide greater strength needed for unusual duty or added safety in high-speed operation. For service in taxicabs, police cars, or other applications, special tires are offered. See Options and Accessories Sections. Other special tires are available from tire manufacturers.

TIRE LOCK, SPARE

Optional (RPO P19) for Corvair models. Operated by separate key, lock helps prevent theft of tire and wheel assembly stowed in unlocked engine compartment of these models. Not required on Corvairs equipped with air conditioning, since spare tire stows in locking front luggage compartment on these models.

TISSUE DISPENSER, SWING-OUT

Dealer-installed accessory for all models except Corvette and Greenbrier. Steel shell with chrome-plated front panel holds regular box of disposable tissues. Dispenser swings out from under instrument panel for tissue removal.

TOOL KIT

Dealer-installed accessory for all models. Kit includes ball-peen hammer, two screwdrivers, pliers, spark plug wrench and three open-end wrenches in vinyl bag. Tools are visible for selection through transparent front of bag.

T

TORQUE

Torque is turning force at the rear of the engine crankshaft, measured in foot-pounds (pounds of force one foot from crankshaft center). With the same transmission and rear axle ratios, greater torque provides more turning force at the rear wheels. See Engine Specifications sections for maximum torque ratings.

■ **Torque Multiplication**—Torque conversion by the transmission and the rear axle is called torque multiplication. Engine torque at the crankshaft end is multiplied by the transmission ratio, transmitted through the drive shaft to the axle, further multiplied by the axle ratio and then transmitted through the differential gears and axle shafts to the wheels—where it becomes driving force (see illustration). Torque multiplication by the transmission is accomplished through differences in the

national driving population. Replaces former head room data. See Model Specifications pages for Torso Room dimensions.

TRANSAXLE DRIVE

Standard in Corvair models. In unique Unipack Power Team, the engine is behind the rear axle and the transmission is ahead of the rear axle. To transmit engine torque through the transmission to the rear axle, an input drive shaft passes through a hollow differential hypoid pinion and transmission output shaft. Shafts are common components of transmission and rear axle. Engine torque transmitted to the transmission through the input shaft is then transmitted through the output shaft to the drive pinion, which transmits torque through the rear axle ring gear to the differential. Universal joints connecting the differential and axle shafts transmit torque to the

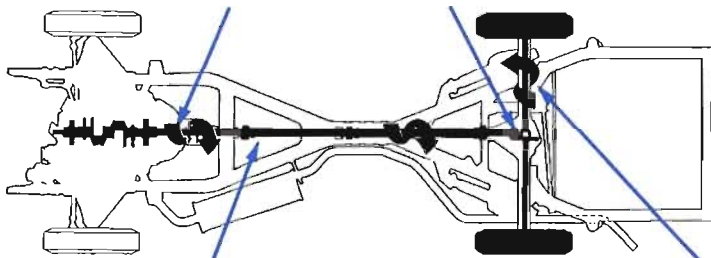
TRANSMISSIONS

A transmission is a type of torque converter that functions to transmit engine power to the drive shaft (except on Corvair transaxle drive where the transmission output shaft connects directly to the axle drive pinion shaft) and ultimately to the rear wheels through the differential gearing. The transmission converts or multiplies engine torque while reducing the speed at which it is transmitted, except in high gear of 3- and 4-Speed Synchro-Mesh transmissions where torque is transmitted at a direct 1:1 ratio. Manual-shift 3-Speed Synchro-Mesh, Overdrive, and 4-Speed Synchro-Mesh transmissions convert and transmit torque by gearing. Powerglide automatic transmissions, with hydraulic torque converters, accomplish torque conversion and multiplication by fluid as well as gears. Synchro-Mesh transmission gear ratios and Powerglide torque multiplication ranges are specifically matched to engine power for best overall performance and economy. See Power Teams Sections for ratio information.

■ **Synchro-Mesh Transmissions**—Manual-shift transmissions include standard 3-speed for all models of all series and optional 4-speed transmissions. Transmissions are called “Synchro-Mesh” because they embody synchronizers that automatically synchronize the speed of the gears while they are meshing or engaging, permitting gears to be shifted without clashing. Three-speed transmissions are synchronized in Second and Third gears only; 4-speed is synchronized in all forward gears. The forged alloy steel gears are shot-peened after hardening to make them more durable and teeth of all forward speed gears are helical-cut to increase tooth contact surface for durability and quiet gear operation.

TORQUE AT END OF CRANKSHAFT IS:

1. MULTIPLIED BY TRANSMISSION GEARS
2. TRANSMITTED THROUGH DRIVE SHAFT
3. FURTHER MULTIPLIED BY REAR AXLE GEARS
4. TRANSMITTED THROUGH DIFFERENTIAL AND AXLE SHAFTS TO WHEELS



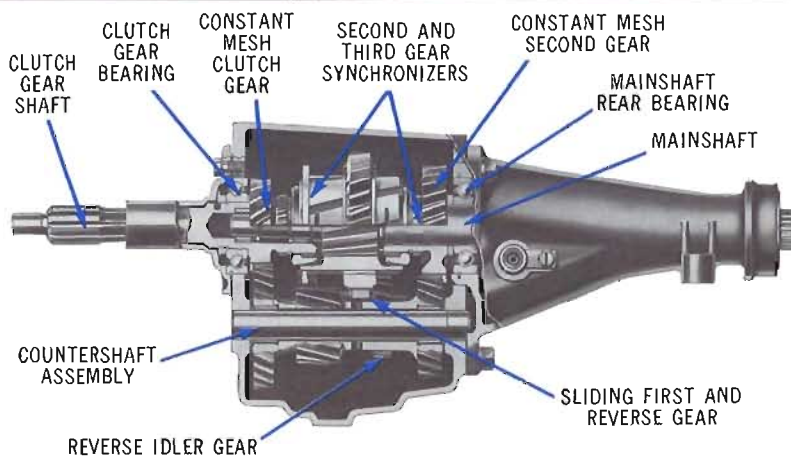
Torque Multiplication

numbers of teeth in the meshing gears in manual-shift transmission and differences in fluid control as well as numbers of gear teeth in Powerglide automatic transmissions. Total torque multiplication is the transmission ratio multiplied by the axle ratio. A higher total torque multiplication figure means more turning force at rear wheels for faster acceleration and easier hill climbing, while a lower figure means the engine runs slower for given road speeds and uses less gasoline. To determine total torque multiplication ratios for any model, (1) refer to Power Teams section for correct combination of rear axle ratio and transmission; (2) refer to Transmission section for transmission ratios; and (3) multiply transmission ratios by rear axle ratio.

rear wheels and at the same time permit independent up-and-down movement of the wheels. The universal joints have forged alloy steel yokes and trunnions plus sealed bearings for smooth, quiet operation.

TORSO ROOM

Measurement of interior sitting room based on scientific measuring techniques designed to calibrate roominess requirements for 95% of the



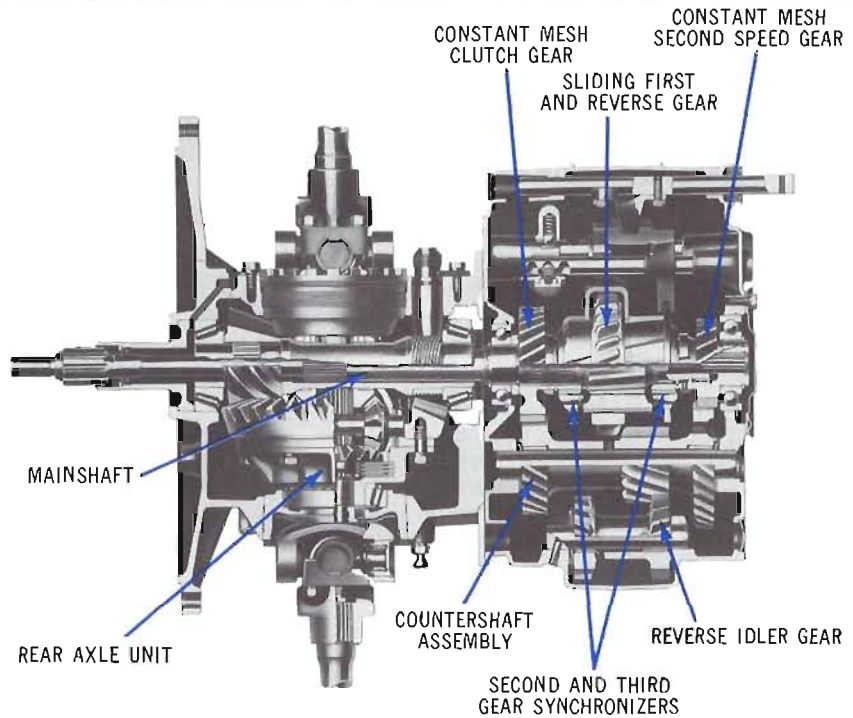
Chevrolet 3-Speed Synchro-Mesh Transmission (Cutaway Side View)

■ **Chevrolet, Chevelle, and Chevy II 3-Speed Synchro-Mesh** — Standard with all except 409-cu-in V8 engines. Economical 3-Speed Synchro-Mesh transmissions offer smooth, dependable shifting and excellent durability. The steering column gearshift lever shifts through the standard 3-speed pattern. Linkage design isolates the lever from engine and transmission movements. Heavy-duty 3-Speed Synchro-Mesh for Chevrolets (standard with 283- and 327-cu.-in. V8 engines and optional with 6-cylinder engine as part of Taxicab and Police Car Equipment) has same gearshift control and is mechanically similar to standard 6-cylinder unit except that higher-capacity clutch gear bearings have extra durability to stand up under higher torque loads.

■ **Corvair 3-Speed Synchro-Mesh** — Standard in all Corvair models. Transmission is basically similar to the regular Chevrolet unit except that it mounts directly to the rear axle differential carrier as part of the transaxle drive unit. Transmission and rear axle share a common lubrication system. Concentric input and output shafts allow direct drive without extra gears in Third, keeping mechanical efficiency high and minimizing driving noise.

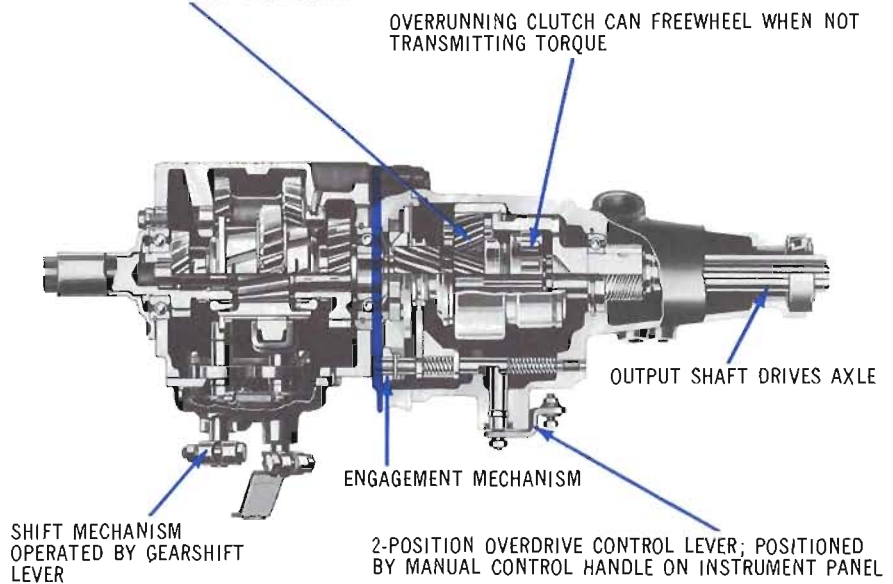
■ **Corvette 3-Speed Synchro-Mesh** — Standard with all Corvette V8 engines. Transmission is like heavy-duty transmission used with Chevrolet V8 engines except for case mounting and floor-mounted shift lever.

■ **Overdrive**—Optional (RPO M10) with Chevrolet and Chevelle standard 6-cylinder and V8 engines, and Chevelle optional 155-hp six and 220-hp V8 engines. The overdrive unit, used in conjunction with Synchro-Mesh 3-Speed transmission provides an automatic fourth or cruising gear. At the same road speed, the engine speed of a car in Overdrive is over 22 per cent slower than that of a car with the same axle ratio, but not equipped with Overdrive. This contributes to higher fuel economy, reduced engine wear, and quieter driving. A Synchro-Mesh 3-Speed transmission (ahead of line in illustration) with standard ratios is connected to the Overdrive unit (behind line in illustration). The Overdrive unit multiplies the Synchro-Mesh forward speed ratios by the .70 to 1 ratio of its planetary gearset to obtain reduction of engine speed. The Overdrive unit is locked out or engaged by a T-handle labelled OVERDRIVE located below the instrument panel. Overdrive is locked out by pulling the handle outward and is engaged by pushing the handle in-



Corvair 3-Speed Synchro-Mesh Transmission and Rear Axle (Cutaway Top View)

3-PINION PLANETARY GEARSET: .70:1 RATIO



Optional Overdrive Transmission (Cutaway Top View)

ward at any time. It may be pulled outward at any time, but when the car is moving, the accelerator must first be pressed past resistance at full throttle.

■ **Chevrolet, Chevelle, Chevy II, and Corvette 4-Speed Synchro-Mesh** — Manually-operated 4-Speed transmissions with full synchronization of all forward gears. See Power Teams Sections for availability. Properly spaced ratios make it possible to accelerate with minimum

loss of engine speed at shift points. Since all forward speeds are synchronized, transmission can be shifted into any forward gear or used to assist deceleration by downshifting in Third-Second-First sequence without double-clutching or gear clashing. A floor-mounted gearshift lever has a shift pattern diagram on the knob (on trim plate on Corvette and SS models). T-handle on the shift lever must be lifted to select Reverse, preventing unintentional

engagement of Reverse gear.

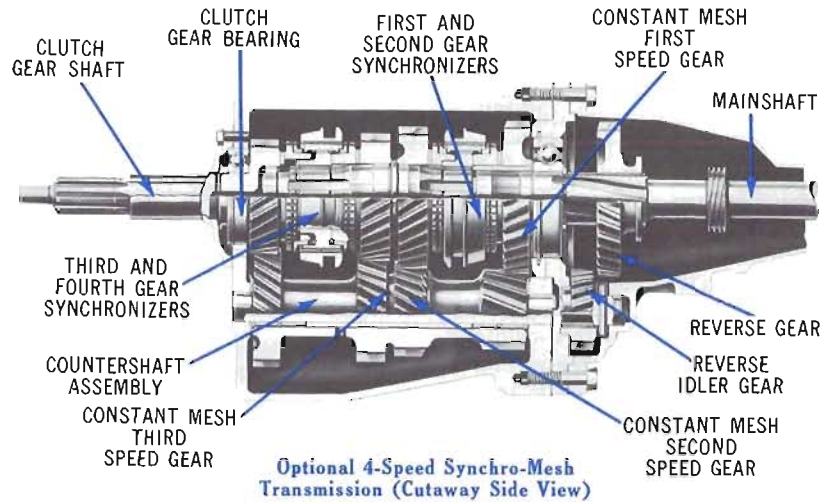
■ **Corvair 4-Speed Synchro-Mesh**

— Optional for all models including Greenbrier. Fully synchronized 4-speed manual transmission is engineered for concentric input and output shafts of transaxle system and space requirements of rear engine drive. All forward gears are helically cut, in constant mesh, and fully synchronized. Full synchronization permits easy, quiet up- and down-shifting without double-clutching. A sliding gear is used for Reverse.

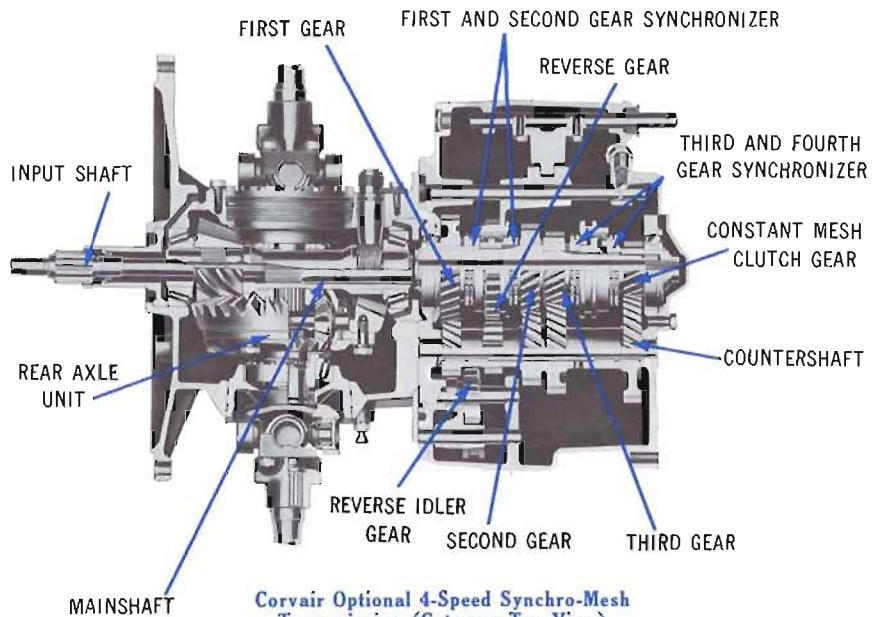
■ **Chevrolet, Chevelle, Chevy II, and Corvette Powerglide**

— Optional Powerglide (RPO M35) offers proved dependable automatic driving convenience. Unique control system cushions automatic shifting at any speed for smoother power flow under all conditions. Flooring accelerator triggers an automatic down-shift for an extra passing surge at road speeds. Low range may be selected manually for sustained pulling power. The clutch pedal is eliminated and a brake pedal with a wider pad replaces the standard brake pedal. Powerglide transmissions are three-element hydraulic torque converter designs with low-weight precision-cast aluminum case and extension, and are basically similar in all models though differing in specific design details, cooling provisions, and shift-point calibration. Units include engine-driven pump, turbine, and stator encased with oil in torque converter housing. Engine torque is transmitted through oil supplied to the converter from the sump. Pump, turbine, and stator have vanes that are curved to form passages through which the oil is directed. The turbine is mechanically connected to the turbine shaft; the output shaft is mechanically connected to the gearset planet carrier. Turbine and output shafts are inter-connected through the planetary gearset, which is geared to increase torque multiplication in Low and Reverse. The system of hydraulic controls includes low band and disc-type high range and reverse clutches that engage drums of clutch and gearset to complete connections between the shafts and the gearset for various drives. Actuated by the transmission selector lever and/or accelerator, the hydraulic control system causes oil under pressure to apply high range clutch or bands.

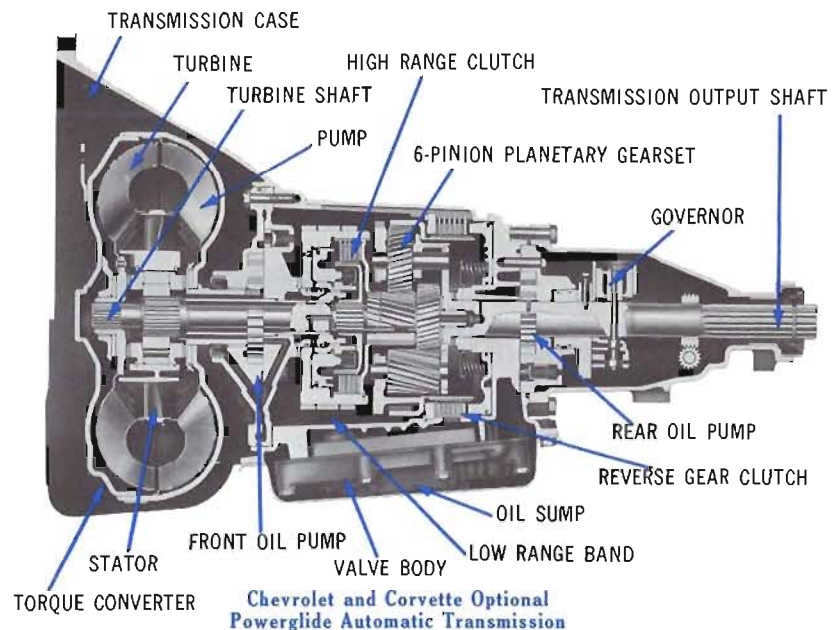
■ **Corvair Powerglide** — Optional (RPO M35) on all Corvair and Greenbrier models. The Corvair Powerglide automatic drive system is based on Chevrolet Powerglide, but engineered to the Corvair transaxle design. Three-element air-



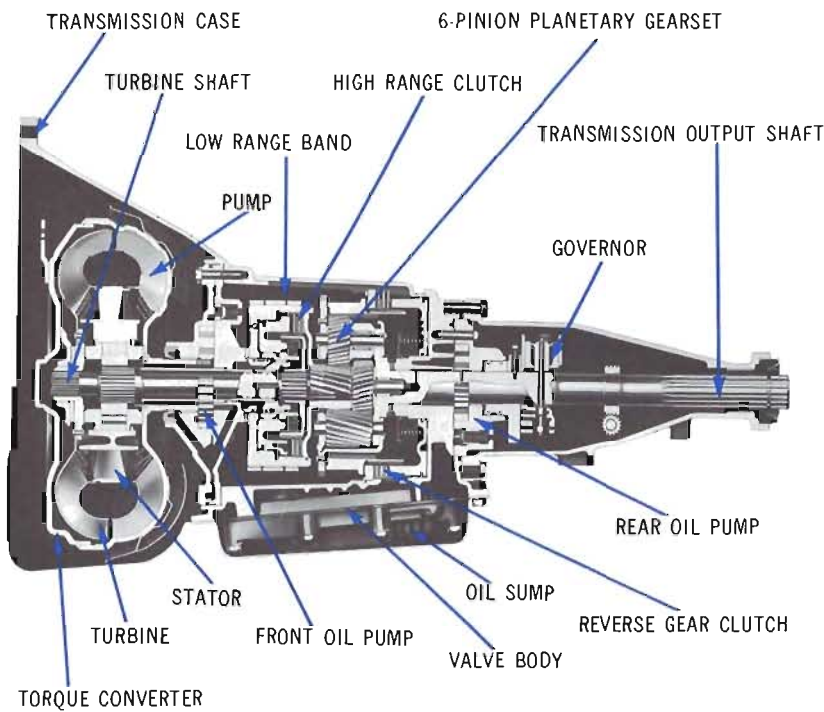
Optional 4-Speed Synchro-Mesh Transmission (Cutaway Side View)



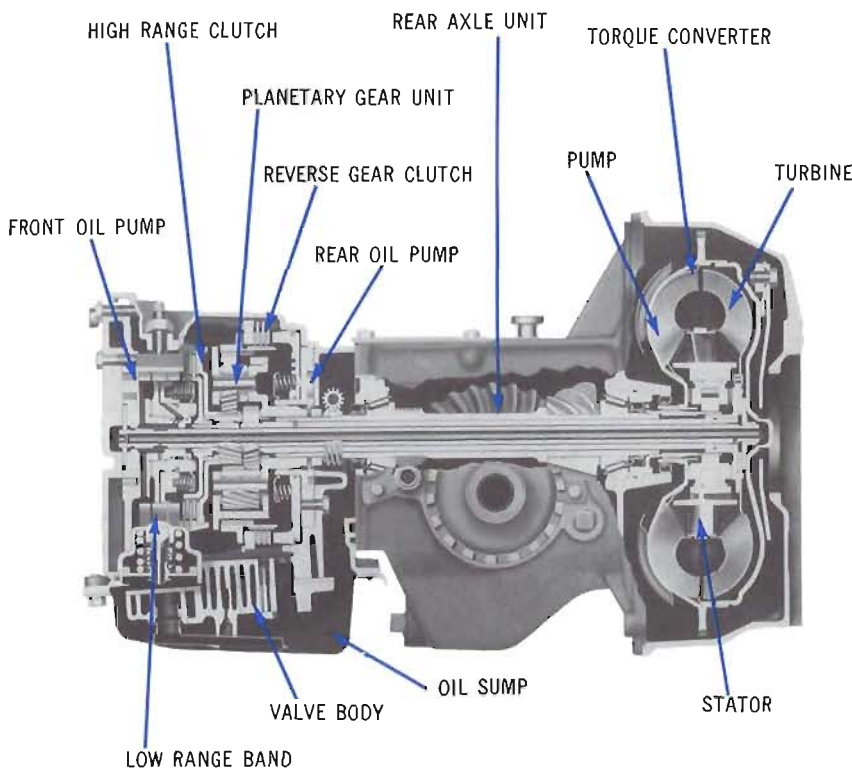
Corvair Optional 4-Speed Synchro-Mesh Transmission (Cutaway Top View)



Chevrolet and Corvette Optional Powerglide Automatic Transmission

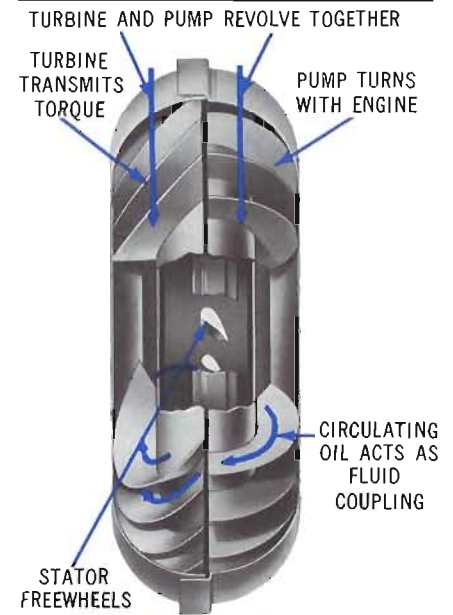


Chevelle and Chevy II Optional Powerglide Automatic Transmission

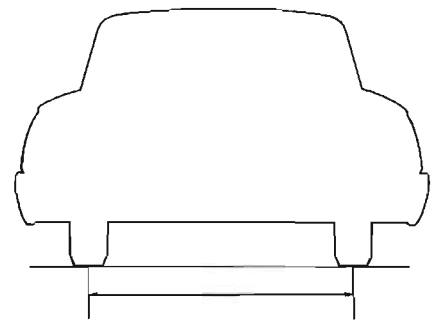


Corvair Optional Powerglide Automatic Transmission

cooled hydraulic torque converter transmission includes engine-driven pump, turbine, and stator. Engine torque is transmitted through oil flow from the pump to the turbine, which is connected by an inner concentric shaft to planetary gears at opposite end of transaxle unit. Planetary gears engage automatically for acceleration from standstill, or can be selected by flooring accelerator at lower speeds, or by moving transmission range selector to L position. The selector lever is mounted beneath the instrument panel to the right of the instrument cluster.



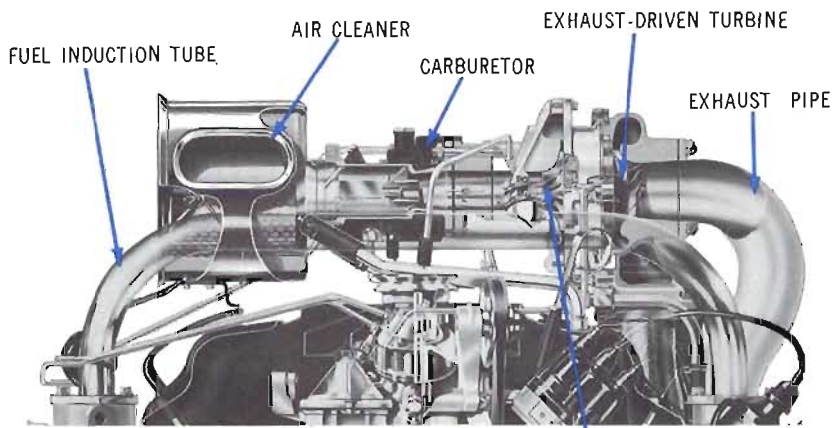
Powerglide Torque Converter in Direct Drive



Tread

TREAD

Wide wheel tread, with low center of gravity, contributes to a more stable ride, better handling, and increased safety. Tread is a dimension of width, expressed in inches, measured between the front and rear tire centers at road level. See Model Specifications for tread data.



14-BLADE CENTRIFUGAL IMPELLER
Exhaust-Driven Turbo-Supercharger

TURBO-SUPERCHARGER

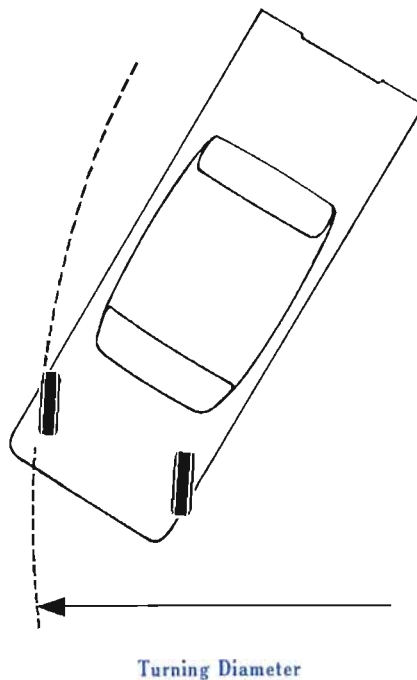
Feature of Monza Spyder models. Unit consists of an exhaust gas driven turbine that in turn drives a precision-cast aluminum centrifugal impeller with fourteen evenly spaced blades at extremely high rotational speeds. The impeller's function is to force greater volumes of fuel-air mixture from the special side draft carburetor through the fuel induction crossover tube that supplies each cylinder bank (see illustration). Up to a point (approximately 40 mph at full throttle) the impeller action, in effect, merely keeps pace with the normal fuel-air mixture flow induced by the pistons. Supercharger action or "boost" occurs when the exhaust gas flow rate increases to the point where the centrifugal impeller is actually forcing more fuel-air mixture to the cylinders than the pistons can induce. The greater the rotational speed of the impeller, up to the induction limits of the system, the more boost and resultant higher power output. See also Spyder Turbocharged Engine Specifications.

TURNING DIAMETERS

Curb-to-curb turning diameter is the diameter of a circle scribed by the outer wall of the outside front wheel tire. Wall-to-wall turning diameter is the diameter of a circle scribed by the outermost projection of the front fender or bumper. In obtaining measurements, car is put through both left and right turns. See Model Specifications for data.

UNDERHOOD LIGHT, AUTOMATIC

Dealer-installed accessory for all models except Greenbrier. Shielded



bulb with a mercury switch mounts on the underside of the hood. It lights the engine compartment when the hood or lid is raised; goes out automatically when the hood or lid is closed. Bulb is wired directly to the battery so it can operate with the ignition off.

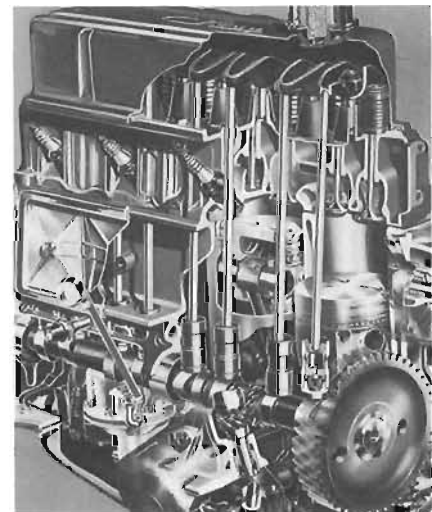
UNIPACK POWER TEAM

Feature of all Corvair models. Combines engine with transaxle in a rear-mounted unit of exceptionally low weight. The transaxle consists of the transmission just forward of rear wheels and the differential gearing in line with the rear wheels. Engine and clutch are behind the rear wheels. Rear wheels are driven by short axle shafts from each side of the differential case. Location at the

rear of the car is the major reason for Corvair's roomy interior, excellent ride and roadability, superior traction, and outstanding stopping power. For ease of repair, entire Unipack power team can be removed from car as a unit. See also TRANSAXLE DRIVE.

VALVE-IN-HEAD DESIGN

Feature of all Chevrolet-built engines. With valve-in-head design, the valves are in the cylinder head(s)



Valve System with Hydraulic Valve Lifters

above the cylinders instead of in the cylinder block beside the cylinders. This permits the use of water passages, or cooling fins, that encircle the valve seats for better valve cooling. And the intake and exhaust passages can be designed to lead directly to and from cylinders for better engine breathability. A separate valve train for each valve operates independently from all other valves. Quiet and durable, the independent valve trains open and close valves at precise intervals for most efficient engine performance.

■ **Valve Lifters** — Lifters, operated by cams on the camshaft, are of two types. Mechanical lifters that operate uniformly at extremely high speed are used in high performance engines. Hydraulic lifters used in other engines automatically compensate for wear, so valve operation is quieter, and, unlike mechanical lifters, do not require periodic service or adjustment.

■ **Push Rods** — Hollow steel push rods—rigid but light in weight—operate the rocker arms and also serve as passages through which pressurized oil from the lifters is routed

to the rocker arm sockets and valve stems.

■ **Rocker Arms**—Pressed steel rocker arm for each valve rocks on a ball-and-socket joint — independently of the operation of other valves.

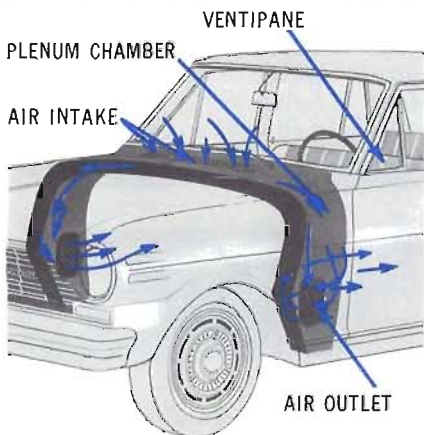
■ **Valves**—Special materials for valves of each engine contribute to long valve life. See Engine Specifications for valve details. Water jackets around valve seats in liquid-cooled engine cylinder heads eliminate the need for special valve seat inserts. On Corvair engines, because the cylinder heads are aluminum, hard valve seat inserts are used. In high performance engines, high-alloy valve steels, aluminum treatment of some exhaust valves faces, and hardened valve tips provide extra durability needed for higher speed operation.

■ **Valve Guides** — Bored in cylinder heads in liquid-cooled engines so valve stem heat is dissipated directly to water jackets around valves. Cast alloy iron valve guides (special bronze alloy on Turbocharged engine exhaust valves) are used on Corvair engines.

■ **Valve Springs** — Variable-pitch coils flex quietly; spring caps are held by split-cone locks. In high performance engines, valve spring dampers help operate valves positively at higher speeds.

VENTILATION, HIGH-LEVEL

Standard in all models. Car movement forces air through openings just below windshield (above normal level of road dust and fumes) into plenum chamber of double-walled cowl. The chamber smooths out air flow into passenger compartment. Louvered outlets in the cowl sides direct air from the plenum chamber over and under the front seat for ventilation throughout the passenger compartment. For each outlet, a push-pull knob on the instrument panel operates a damper

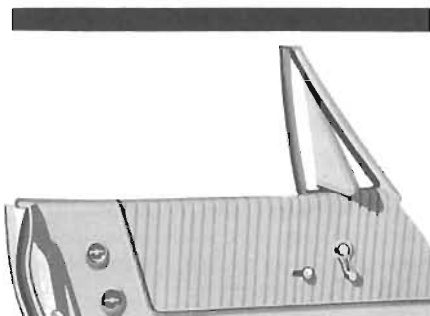


High-Level Ventilation

behind the outlet to regulate or shut off air flow. Ventipanes aid air circulation. Opened slightly, they permit stale air to escape from passenger compartment while fresher air flows in.

VENTIPANES

■ **Crank-Operated Ventipanes** — Standard in all Chevrolet and Corvette models. Draft-free ventilation is provided by front-door ventipane windows. Conveniently operated by crank regulators, the panes pivot in frames lined with resilient rubber. Chrome-plated steel moldings bind the edges to strengthen glass and prevent chipping. When closed, the ventipanes seal tightly against rubber in the pillars.



Corvette Crank-Operated Ventipane

■ **Friction-Type Ventipanes** — Standard in all Chevelle, Chevy II, and Corvair models. Draft-free ventilation is provided by ventipanes in the front door windows. Hand-operated panes turn on friction pivots that hold them in the selected positions in frames lined with resilient rubber. Metal glass edge moldings strengthen glass and prevent chipping. When closed, chrome-plated lever type latches secure ventipanes to the pillars.

W

WATER PUMP

Feature of all liquid-cooled engines. Centrifugal water pump keeps coolant circulating through the engine cooling system. Maximum circulation rate range is approximately 53 to 78 gallons per minute depending on engine (See Engine Specifications). Pump consists of an impeller on the end of the shaft on which the cooling fan is mounted. Double-row ball bearings have spring-loaded seals around the shaft and are self-adjusting for wear.

WEIGHTS

■ **Curb Weight**—Vehicle weight with standard equipment and full capacities of oil, fuel, and water.

■ **Shipping Weight** — Vehicle weight with standard equipment and full capacities of oil and lubricants, but not including fuel and water. See individual Model Specifications for estimated curb and shipping weights.

WHEEL(S)

Wheels on all models are slotted disc type with rim welded to web, instead of riveted, to eliminate sources of tire leaks. Slots contribute to long brake life by permitting cooling air to circulate around the brakes, and also permit installation of tire chains (except where clearance between tires and wheel housings is insufficient). Large nuts secure each wheel to studs in wheel hub. See Chassis Specifications Sections for wheel sizes.



Corvette Optional Special Cast Aluminum Wheels

■ **Special Cast Aluminum Wheels** — Special extra-strong wide-base wheels of precision-cast alloy aluminum. Optional (RPO P48) for Corvette Sport Coupe and Convertible models only. Spoke-type fluted design with extra-wide 6.0" rims and cooling slots contributes to greater strength and increased tire stability. Option includes: set of five wheels, four adapters for attaching wheels to brake drums, four 3-lug knock-off hubs, and special knock-off hammer. Wheel and tire assembly is quickly and easily removed by loosening hub with special hammer and turning off by hand.

■ **Special Wire Wheels** — Optional special wire wheels (RPO P45) for all Corvair models except Greenbrier. Bright chromed authentic wire wheels with sturdy wire spokes precisely attached under tension to



Corvair Optional Special Wire Wheels

keep wheel hub and rim in perfect alignment. Open design contributes to greater braking reserve by permitting cooling air to circulate freely around the brake drums. Option includes: set of five wheels with 6.50 x 13 tires, tubes, and tube protectors, four adapters for attaching wheels to brake drums, four dual-lug knock-off hubs, and special knock-off hammer. Wheel and tire assembly is quickly and easily removed by loosening hub with special hammer and turning off by hand.

■ **Simulated Wire Wheel Covers** — Optional (RPO P02) for Chevrolet, Chevelle, Chevy II and Corvair models. Set of four simulated wire wheels with 3-lug center spinner (similar to Corvette 3-lug spinner). All stainless steel construction except for chromed spinner.

■ **Wheel Covers** — Standard on Corvair Monza Spyder and Monza models, Impala Super Sport, Chevelle Super Sport, and Corvette models, optional (RPO P01) or dealer-installed accessory for other



Chevrolet, Chevelle, Chevy II and Corvair Optional Simulated Wire Wheels

models. Styling varies according to model. Set of four snap-on full wheel covers of stainless steel have slotted openings to permit cooling air to circulate around brake linings.

■ **Wheel Hub Caps, Enameled Steel**—Standard on Corvair Greenbrier Sports Wagon. Snap-on hub caps are enameled off-white color to match standard Greenbrier bumpers.

■ **Wheel Hub Caps, Bright Metal**—Standard on Chevrolet and Chevelle (except Super Sport models), Chevy II, and Corvair 500 and 700 models; dealer-installed accessory or optional as part of Custom Equipment option (RPO Z60) for Greenbrier.

■ **Wheels and Tires, Balanced**—Feature of all models. For smoother, more comfortable ride with minimum vibration, each wheel and tire assembly is statically balanced at factory before installation on car. Balance weights (when required) are attached to the inner side of the wheel rim.

WHEELBASE

Wheelbase is a standard measurement, expressed in inches, of car length between the front and rear wheel centers. For wheelbase dimensions of various models see individual Model Specifications.

WINDOW SCREENS, ALUMINUM

Dealer-installed accessory for Greenbrier models. All-aluminum fine-mesh insect screens fit window openings in double doors on right-hand side of car and matching windows on left-hand side. Windows can be operated with screens in place. See Greenbrier Special Custom Features section for illustration.

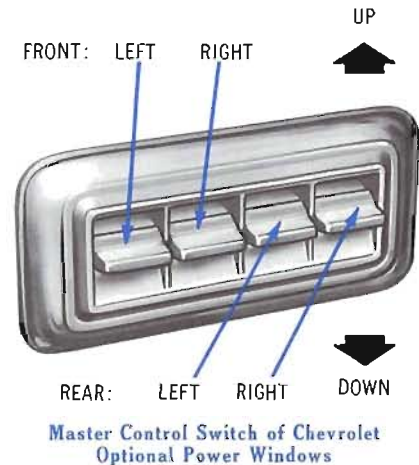
WINDOW VENTSHADES

Dealer-installed accessory for Chevrolet, Chevelle, and Chevy II 2-Door and 4-Door Sedans and Station Wagons, Corvair Coupes, Sedans, and Greenbrier. Stainless steel awnings that fit above side windows protect against glare and permit partial window opening during rain.

WINDOWS

■ **Crank-Operated Side Windows**—Standard on doors of all models except Greenbrier rear, and rear quarter windows of all 2-Door Sedan and Coupe models except Corvair 500 Club Coupe. High-ratio regulator mechanism permits quick and easy adjustment of window height with relatively few handle turns. Depending on model, regulator handles are standard-quality (single-arm type) or de luxe (dual-arm styled) with black plastic knobs. See individual model Interior Appointments and Features for window regulator handle styling.

■ **Power-Operated Side Windows**—Optional (RPO A31) for side windows (except ventpanes) of Corvette, Chevelle, and all Chevrolet models except Biscayne. Instead of a crank regulator, an individual electric motor operates each window. Chrome-plated control switch at window (see illustration) is pushed down to lower window and lifted to raise it. Master controls are on driver's door on Chevrolet; center console on Corvette.



Master Control Switch of Chevrolet Optional Power Windows

■ **Crank-Operated Tailgate Window**—Standard in all Chevrolet, Chevelle, and Chevy II 6-Passenger Station Wagons. Retractable rear window lowers completely into the tailgate. Window may be lowered or raised only with tailgate closed. Quick-acting chrome-plated regulator handle folds into chrome base on outside of gate (see illustration). Unfolded crank will not operate window while tailgate is locked.

■ **Power-Operated Tailgate Window**—Standard in Chevrolet 9-Passenger and Chevelle and Chevy II 3-Seat Station Wagons; optional (RPO A33) for all 6-Passenger Station Wagons. An electric motor in the tailgate operates window linkage. Motor is controlled by either of two switches in all models: one under the



Chevy II Station Wagon Manual Tailgate Window Regulator

instrument panel and one which is integral with gate key lock and operated with the key. Key lock is in middle of chrome escutcheon on outside center of gate. In 9-passenger and 3-seat models, a third switch next to third seat courtesy light allows third seat passengers to operate tailgate window from inside car.

WINDSHIELD

Laminated safety plate glass windshield of each model is generous in size and styled to contribute to appearance. See Model Specifications for windshield areas.

WINDSHIELD WASHER, PUSH BUTTON

Used with standard single-speed windshield wipers. Dealer-installed accessory for all Chevrolet, Chevelle, Chevy II, and Corvair models including Greenbrier. Water is supplied to jets from plastic jar under the hood. A pushbutton in the windshield wiper control knob starts the wiper blades and causes washer to spray a measured amount of water onto the windshield glass and then stop automatically. When glass is clean, driver must stop wipers by turning control knob to left.

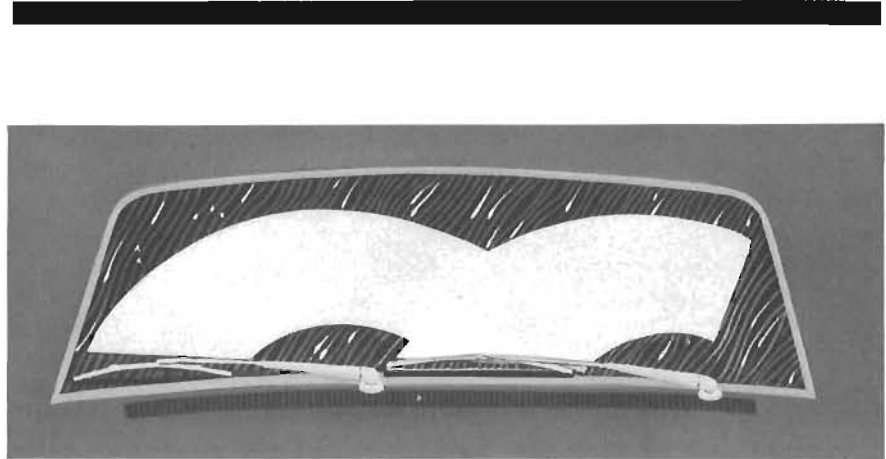
WINDSHIELD WIPERS

■ **Electric Single-Speed**—Standard on all Chevrolet, Chevelle, Chevy II, and Corvair models. Direct-link parallel-acting windshield wipers clean windshield with two parallel-operating blades that overlap at the center to give the driver a continuous clear area for good visibility. Electric wiper motor and linkage to

wipers are ahead of the passenger compartment so sound is hushed by dash. Parking switch parks blades near windshield base when it is turned off. Wipers are controlled by knob on instrument panel at left of steering column.

■ **2-Speed Electric Windshield Wipers and Washer**—Standard on Corvette; (optional (RPO C14) for all Chevrolets and Greenbrier); optional as part of Comfort and Convenience Equipment group (RPO Z01) for Chevelle, Corvair (except Greenbrier) and Chevy II models. Windshield washers and choice of wiper

speed provide an extra margin of safety. Dual electric wipers operate constantly at either of two speeds. Control knob turns to FAST, SLOW or OFF and includes push-button washer control. Water is supplied to jets from unbreakable reservoir under hood by piston pump driven by the windshield wiper motor. Pressure on the button turns the knob to SLOW, starting wiper blades, and causes washer to spray a measured amount of water onto the glass and then stop automatically. When glass is clean, wipers are stopped by turning control knob to left.



Parallel-Action Windshield Wiper Pattern

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This convenient cross-referenced alphabetical index can be used like a dictionary . . . simply look for the subject you want under its proper name. Page numbers are shown for the Feature Details section. Other pages or sections in your Finger-Tip Facts containing additional or related information appear below the principal topic in *italics*.

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